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TO OUR READERS.

BEFORE these lines appear the last Christmas embraced in the fifty years of life and activity of the *Journal of Horticulture* will have come and gone. Like a cherished garden its pages get fuller and give more satisfaction with the ever increasing variety that must be recorded in them.

So great is this variety that there is scarcely room for the index matter without, what some of our friends think, undue compression into the allotted space. In view of this it is not improbable, for the purpose of setting out the contents of the half-yearly volumes more clearly, that these prefaces may, as they well can, be displaced.

The cordiality which has so long existed between the conductors and the readers of "our Journal" is firmly established and will continue in full force, for it is deeply rooted; and the same mutual appreciation of aid rendered and information received and imparted will live and grow from year to year, as it is perennial. Therefore in this, mayhap, the last of a hundred prefaces save one, let an injunction go forth to all:—

If you want to keep up to date in gardening; if you want that which is practical, and useful, and interesting; if you want to know the best that is known about Fruit, Vegetables, and Flowers, in various sections—whether Grapes or Apples, Cabbages or other comestibles—Chrysanthemums, Orchids, and Roses, or anything else that grows in well-tilled soil of garden or farm; if you want to see the best literary work of the experienced and worthy efforts of younger men to follow; if you want a fair field for discussion or a medium for genial intercommunication, with advice on varied subjects such as wide experience can give; in a word, if you want threepennyworth of gardening and allied pursuits for threepence, you cannot find it of exactly the same kind in any other publication as in the *Journal of Horticulture*. Then take it as long as you live and tell your friends to do the same. It is just in its prime, like a man of fifty years, fresh, strong, and matured, marching on with firm, elastic step towards its century in 1948.

That the coming year may usher in a long period of prosperity for "GARDENING and GARDENERS" is the earnest desire of—THE EDITOR.

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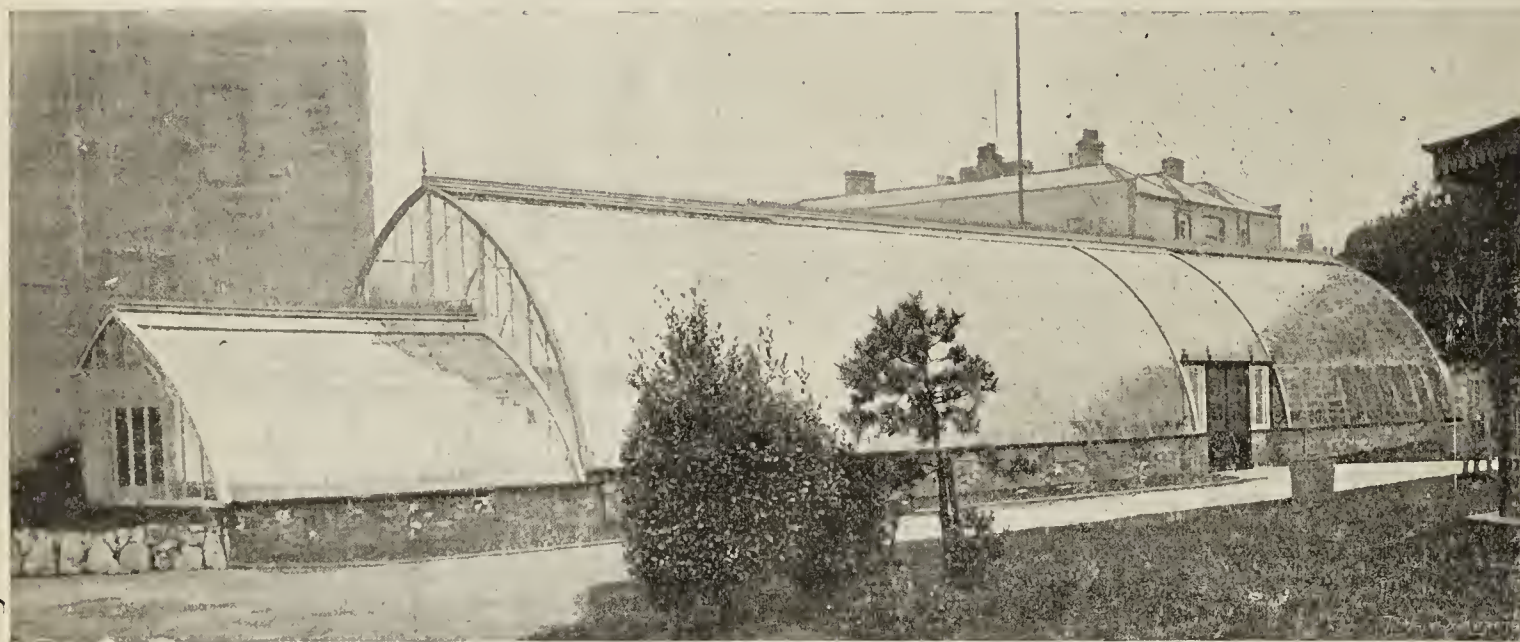
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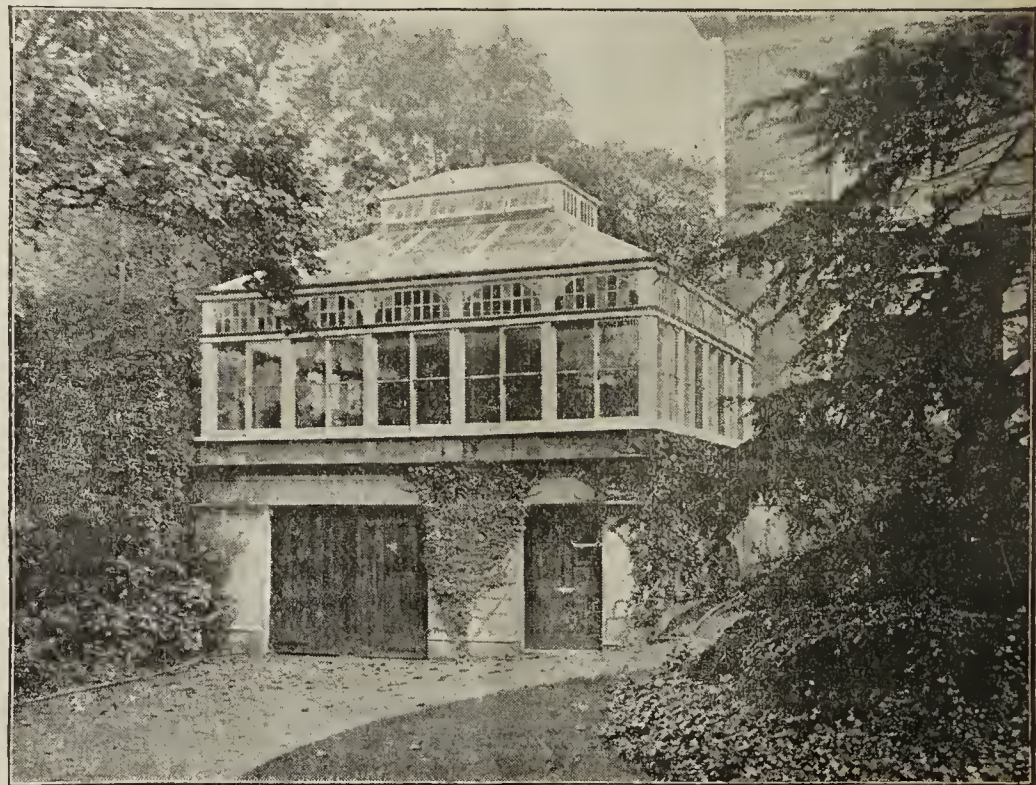
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ORNAMENTAL ASPARAGUS.

THE introduction of *Asparagus plumosus* came as a great boon to the flower-loving public, because in nearly all floral arrangements in which Maidenhair Fern was used the beauty of the whole was quickly marred by the withering of the Fern fronds. It is quite a matter of taste as to whether *Asparagus* or Fern supplies the more beautiful form of greenery for associating with flowers. Personally I consider nothing looks better for the purpose than pale yellow, hard fronds of *Adiantum cuneatum*; but in the matter of lasting qualities there is no comparison between the two. *Asparagus* when placed in water will last in hot rooms four, five, or even eight days; and when made up in sprays or bouquets it keeps perfectly fresh for a couple of days. This saves an immense amount of labour in establishments where floral decorations are carried out on a large scale, and in regard to the various floral devices worn for personal adornment the employment of *Asparagus* is a source of satisfaction to all concerned.

Taking these facts into consideration it is, I think, no matter for surprise to find the culture of South African *Asparagus* has rapidly extended during recent years. The introduction of *plumosus* was soon followed by another addition in the form of *tenuissimus*. Both are exceedingly chaste, and each has some point of superiority over the other. Later additions are *deflexus*, *retrofractus arboreus*, and *stipulaceus*; and by the aid of these florists and gardeners have opportunities for forming the light, graceful, flowing arrangements which are so much appreciated at the present time.

Although *Asparagus* is largely in demand at remunerative prices, the plant is of extremely easy culture, and is subject to the attacks of few insects, scale perhaps being the most troublesome, and it is not difficult to keep this under if remedial measures are taken early. Owing to the demand both plants and seeds are rather expensive, but when once a stock is obtained there is money in ornamental *Asparagus* growing.

A good method to pursue in order to work up a stock is to purchase plants in small pots, and repot as they require it; but generally it will be

found that one good shift yearly will be sufficient. A simple compost suits the plants admirably. In one formed of four parts good turfy loam and one of decaying manure, with a little sharp sand added, they invariably prove satisfactory, provided a little liquid manure or some chemical fertiliser is occasionally given when the plants are well established, for, like edible Asparagus, these ornamental kinds are gross feeders. A point, however, which ought not to be lost sight of is that some florists prefer trails or fronds of a light green colour, and when the grower aims at producing such the plants must be grown in full sunshine, and not fed with manures. Under such circumstances it will be apparent to all that the plants will need frequent repottings to keep them healthy and vigorous.

The best results are obtained by growing Asparagus in a fairly warm temperature, as the growth is then rapid, and very long trails are produced in one season. When these have become thoroughly hardened they should be cut before the leaflets begin to fall. This latter remark applies to plants grown and trained to strings solely for the purpose of supplying long trails. After the plants are cut down, if kept rather dry during winter, they will send up strong shoots again in the spring. Another good method of growing the plants is to coil the shoots around stakes thrust into the soil near the edge of the pot, and cut the leaves, instead of the whole shoots, as soon as they are ready.

Both *A. plumosus* and *A. tenuissimus* make splendid climbers for covering the back wall of almost any glass structure, or for training thinly over the roofs of plant houses. If planted out they then grow freely throughout the year, and constantly supply material for cutting. No private garden ought to be without one or more of such plants, as many an unsightly wall could by such means be clothed with beautiful greenery always valuable for house embellishment.—H. D.

HARMFUL AND HARMLESS GARDEN MOTHS—22.

JUNE is the month when we first see the silver Y, or gamma moth (*Plusia gamma*), flying about gardens, but it continues on the wing all the summer, being usually most abundant in August and September; but I have seen the moth flying in scores amongst Currant bushes while they were in fruit, being seemingly attracted by their odour, though they did not settle upon them. As a species it is fond of sweets, natural or artificial, and is also fascinated by light. Another of its peculiarities is that of flying in hot sunshine, but it may be observed at twilight, and even after dark, still I presume it gets a little sleep sometimes like other insects. The moth has the thorax finely crested; the general colour is purplish brown, occasionally rather grey; the fore wings are satiny, mottled, and showing the characteristic mark which suggested the name.

It is certainly one of our injurious species, though lately we have had no special complaints concerning the caterpillar's doings. It feeds on a variety of garden plants. Mr. Wood says that some seasons the Pea suffers from its attacks, and I have taken it upon Roses and Chrysanthemums. On the Continent it is regarded as the chief foe of Beet, but consumes also many of the pot herbs; and in France and Germany this caterpillar has been known to lay waste, not only gardens, but extensive fields. Education, we may hope, has done something to disperse the apprehensions with which this insect was once regarded, for it was believed to exert a poisonous influence upon all plants it ate or walked over. Therefore, during years when the caterpillar was abundant, the country folk deprived themselves of their favourite soup or potage, because they were afraid to use the herbs which formed an important part of it. No such suspicion or dread has been observed in these islands.

The eggs of the silver Y moth are generally laid in clusters, they are round and pearly. The caterpillars emerge in about a fortnight. As there is a succession of moths, so is there of caterpillars. While young they escape notice, being pale or yellowish green, and they rest, when not eating, along the midrib of a leaf. Getting larger they become of a darker green, having six thin white stripes along the back, and a broader one of yellow on each side; the body is dotted with fine hairs, and thickens towards the tail. When adult each spins a silken cocoon for itself amongst the herbage, through which the chrysalis can be plainly seen. Many of these caterpillars may be caught and got rid of by shaking their food plants, and killed by dusting them with lime, salt, and other insect killers, or syringed off. There is some difficulty in capturing the moths during the day, as their flight is rapid, but they may be snared at night with sugary compounds.

To the same genus belongs the burnished brass (*P. Chrysis*), a moth distinguished by the golden green fore wings, upon which are two large blotches of brown; the hind wings, head, and body are greyish brown. This occurs about gardens twice a year in June and August, being common over Britain; it is one of the insects that haunt the suburbs of London. In habit the caterpillar is also

double-brooded most years; the later brood is more frequently noticed. It is of a dull green colour, having six white marks on each segment, the body is leech-like in front with a small shining head. The food is various low plants. Culinary vegetables are sometimes attacked; nettles are often its favourite aliment, though it wanders from these to other species that may be near. One of the same genus that is both handsome, and useful in a way is the golden Y, or *Plusia Iota*, which is found throughout England, and is even more common in Ireland. The moth is of a rich brown hue, varied with rosy tints, having a dark blotch in the centre of the fore wings, this encloses two golden marks. It is a July species, and flies frequently when the sun is shining. The caterpillar has been taken upon garden weeds.

The moth called the four-spotted (*Acontia luctuosa*) is an instance of a species which is plentiful where it happens to occur, but scarce in many places. Its time of flight is June and September. Should we observe it at rest upon a wall or paling, the probability is that it has been bred in the garden upon a plant of *Convolvulus*, though the caterpillar may have fed upon the wild Bindweed under a hedgerow not far off. A moderate sized moth, yet very conspicuous, nearly black in colour, having upon each wing a white or pinkish spot; these are usually larger on the hind wings. Unless search is made at night, the caterpillar is not discovered except by accident. It hides during the day amongst clods of earth, then mounts the stems after dark to eat the unopened flowers. It is remarkable for having a shining plate, like a half moon, on the second segment; the body is grey striped with brown, and on the sides are black spots.

One of the few moths that have been observed in every country of both hemispheres is rare in Britain, but has been reported from many scattered places about our southern counties. This is the scarce bordered straw (*Heliothis armigera*). The perfect insect is abroad in September or October, coming to flowers by day, also at night. It is a dingy insect, brown, with a few faint lines and dots. Some years ago its caterpillar was believed to be the "army worm," which had done such mischief to the Cotton crops of America; afterwards this idea was found to be an error. The caterpillar is described as lightish brown, having on the back dark lines, and on its sides yellow and black rings. It has been taken on a scarlet Pelargonium, then again on the Evening Primrose, on the Tomato, and is stated to eat the Chrysanthemum flowers in the East.

We conjecture that the moth which has received the English name of "the mouse" (*Amphipyra tragopogonis*) obtained it from its peculiar mode of shuffling along if alarmed, seeming to imitate the movement of a diminutive quadruped. Nor is it different from a mouse in colour, having brown glossy wings, which exhibit six black dots. It emerges during July and August, the caterpillar having fed up in the spring. This is of two colours, dark green and greenish yellow; both varieties have stripes bordered with black, which are paler than the ground colour. Some seasons it commits damage amongst Larkspurs in gardens; it feeds also on other low plants, and may be taken off hedges of Hawthorn, sitting upon the twigs with elevated head. The chrysalis is placed just beneath the surface of the earth, without any cocoon or protection. In the West of England, the pretty moth called the marbled whitespot (*Erastria fuscata*) has been seen about gardens at the beginning of June. During the autumn the caterpillar, which is grey, with darker stripes of red or brown, feeds on Raspberry, or on the wild species of *Rubus*. The caterpillars are presumed to live upon one or more of the tall grasses that grow profusely in such watery spots.

We come now to two species, very different in appearance and size, yet while caterpillars similar in their mode of life, and apt to be rather injurious. The first is the gothic (*Mania typica*) a July moth found throughout our islands, having its wings marbled with various tints of brown, two distinct pale spots, and a bent line of double crescents. It deposits eggs upon the Pear, Plum, and other fruit or ornamental trees. Directly the caterpillars hatch they travel over the leaves in parties, consuming the upper surface only, the under cuticle of course withers off. After the first change of skin they descend, and feed upon autumn greens, if accessible, or they may rest content with docks. In October they hibernate, concealing themselves in or near the soil; during the spring they eat a variety of herbaceous plants. They have velvety bodies, which are pale brown, crossed by three dark stripes and some narrow white lines.

We do not know whether the old lady moth (*M. maura*) was so named out of compliment; the general colour is black-brown, two pale spots appear in a band which crosses the upper wings, and round all the wings is a pale border. This large moth is fond of hiding in summerhouses, tool sheds, and similar retreats, where it sometimes startles people by taking flight suddenly. One naturalist says a specimen came back again and again to a house after being ejected. The caterpillar has a small head and leech-like body, with indistinct markings of grey upon a brown ground. In autumn this also feeds on fruit trees, then hibernates; it has been taken upon several garden plants about May. Mr. Newman thinks it may revisit trees after hibernation.—ENTOMOLOGIST.



PENZANCE BRIARS.

WALKING through the Birmingham Market Hall recently my attention was drawn to a charming display by Messrs. Perkins & Son, Coventry, of the Penzance Hybrid Sweet Briars, staged in juxtaposition to a stand of Hybrid Perpetuals and Tea Roses. The contrast between the flowers of the Briars and the Roses was most striking as well as pleasing, and they were much admired. Who can say what may eventually happen to these Briars after a system of high cultivation, and they become double? In fact two or three of the varieties exhibited by Messrs. Perkins evidenced a tendency towards the flore-pleno form, notably such as Meg Merrilies and Anne of Geirstein, possessing as they did petals twice or more than the normal number of five. Is a state of high culture responsible for this polypetalous transition to which numerous flowers besides Roses are amenable?—W. G.

A RESTIVE ROSARIAN.

OWING to the lateness of the Rose season, or the earliness of the date of the Crystal Palace Show, I was not even in form good enough to show "garden" Roses such as Bardou Job, Perle d'Or, A. M. de Montravail, Crimson Rambler, The Pet, and Thoresbyana. The lateness of this season is rather a contrast to the early one of 1895, when I began showing at York on June 19th, and won in the season 104 prizes, including fifty-four firsts, thirty-five seconds, fifteen thirds, a cup, and five medals. I had one or two blooms out on July 1st this year of White Lady, Lady Mary Fitzwilliam, Mrs. R. G. S. Crawford, Medea, Bridesmaid, and Ulrich Brunner, but I could not cut a "twelve distinct" from my large stock of plants. I am deeply sorry I could not help the National Rose Society's show at the Palace with some exhibits, and it is a great disappointment to me to be a "non-starter" for the amateur championship and other coveted prizes. Our late Yachts (Foxhound's) motto was, "Every dog has his day;" I may have mine some day. If you come to see my Rose field on the sly between 4 A.M. and 9 P.M., mind I don't catch you admiring (if nothing more) Bardou Job, Mrs. R. G. S. Crawford, Duchess of Bedford, or Duke of Fife; and remember that my Macranthas, Crimson Ramblers, and Thoresbyanas are big enough to hide my frame from the approaching visitor. I often say to my friends there are three things no practical rosarian should be without—1, a Sproughton hoe; 2, Stott's kill-m-right; and 3, Vermorel's knapsack pump. I have also found a Planet junior a great help. Have not we had some weeds and some aphids?—HY. V. MACHIN.

[We wish for this merry dog-rosarian another day like that at York in 1895, even if he does suggest the possibility of our doing something more than admire his Roses. When we are caught we suspect the penalty will scarcely be a sight of the cup and "nothing more."]

A FEW GOOD ROSES.

WHEN there was seen at Richmond, on the 29th ult., such superb Roses, it was difficult to understand why the assumption should have arisen that Rose bloom was late this season; certainly the flowers shown at Richmond from Colchester by both the famous Cants, and from Turner of Slough, Paul of Cheshunt, and others, were very fine, and excited high admiration. No one wants details as to winnings. Probably a few notes as to the best flowers will be more readable, and to that end I noted down twenty-four of the best in the show in respective colours. Too commonly there is good cause for complaint of the presence in collections of an excessive number of dark flowers; that fault was less in evidence than usual at Richmond.

The finest half dozen of dark hues, were Captain Hayward, Duke of Edinburgh, Alfred Colomb, Marie Baumann, A. K. Williams, and Duke of Teck. These were very fine. Of less deep colours there were Helen Keller, soft rosy carmine, a brilliant flower; Mrs. John Laing, pink and charming; Mrs. Sharman Crawford, rich pink, in all cases very fine; Susanne Marie Rodocanachi, rich rose; Heinrich Schultheis, rosy pink; and Ulrich Brunner, rich rosy red. Of yet paler or softer hues were La France; the very old and, in this case, remarkably fine pink, Souvenir de la Malmaison; Duchesse de Vallombrosa, Lady Mary Fitzwilliam, Caroline Testout, and Cleopatra. Then of whites and yellows, or nearly so, the best were Souvenir de S. A. Prince, Margaret Dickson, The Bride, Kaiserin Augusta Victoria, Marie Van Houtte, and Maréchal Niel. Flowers of these as shown in trebles might have been collected from the Richmond collections, making a twenty-four that would have been very hard indeed to beat. For a general exhibition a brighter and finer Rose show has seldom been seen so early in a late season.—A. D.

ROSE SHOWS.

NATIONAL ROSE SOCIETY, CRYSTAL PALACE.—JULY 2ND.

THE metropolitan exhibition of the National Rose Society, held as usual at the Crystal Palace, must be termed an unqualified success. Notwithstanding the untoward weather with which growers have had to contend of late, the blooms staged were of excellent quality throughout. Naturally many inferior ones were observed amongst such vast numbers,

but they were more than recompensed for by such flowers as Mrs. J. Laing, from Mr. E. B. Lindsell; White Lady, from Mr. C. J. Grahame; Gustave Piganeau, from Messrs. Townsend & Sons; Mrs. W. J. Grant, from Mr. B. R. Cant; and Comtesse de Nadaillac, from Mr. Alex. Hill Gray and Mr. Geo. Prince. These with scores of others were far above average quality, and were the subjects of the greatest admiration from all the visitors.

So far as numbers of flowers and of exhibitors were concerned, it is difficult to form a comparison with this and last season's shows, for the reason that in 1897 all the flowers were squeezed into a dark corner, while this year they were placed on tables throughout the whole length of the central transept. In the nurserymen's classes there can be little doubt that the flowers were quite as numerous as customary, and of a high average quality, and there was little if any inferiority in the amateur section. The arrangements of the show were very good, and little trouble was experienced in finding any individual exhibit in a particular class. For this we presume Mr. Mawley is responsible, and we would offer him our congratulations on the success that crowned his efforts. Subjoined will be found a report of the several exhibits in both sections of the show.

NURSERYMEN—GENERAL SECTION.

Mr. B. R. Cant, Colchester, secured the coveted nurserymen's trophy for seventy-two distinct varieties, and some superb flowers were observed. The varieties were Ulrich Brunner, Cleopatra, Alfred Colomb, Marie Finger, Marquis Litta, Madame Jules Finger, Gustave Piganeau, Caroline Testout, Heinrich Schultheis, La France, Duke of Edinburgh, White Lady, Comtesse de Ludre, Catherine Mermet, Dr. Andry, Mrs. J. Laing, Horace Vernet, Madame Gabriel Luizet, T. Mills, Mrs. Sharman Crawford, Marie Baumann, Lady Mary Fitzwilliam, Comtesse de Raimbaud, Mrs. W. J. Grant, Souvenir de la Malmaison, Magna Charta, Maréchal Niel, Madame Victor Verdier, Mons. Nonin, Madame Cusin, Kaiserin Augusta Victoria, Captain Hayward, Mrs. Paul, Chas. Lefebvre, Hon. Edith Gifford, Senateur Vaisse, Marchioness of Dufferin, Le Havre, Ernest Metz, Helen Keller, Innocente Pirola, Dupuy Jamain, Souvenir d'Elise Vardon, Général Jacqueminot, Susanne Marie Rodocanachi, The Bride, Medea, Crown Prince, Salamander, Marchioness of Downshire, Auguste Rigotard, Souvenir d'un Ami, Marie Verdier, Golden Gate, Earl of Dufferin, Muriel Grahame, Abel Carrière, Bridesmaid, Annie Laxton, Maman Cochet, Edouard André, Madame de Watteville, Prince Arthur, Margaret Dickson, A. K. Williams, Madame Cadeau Ramey, Madame Delville, Madame Bravy, Etienne Levet, Merveille de Lyon, Dr. Sewell, and Souvenir de S. A. Prince.

Messrs. F. Cant & Co. were second with a beautiful stand, in which were conspicuous Beauty of Waltham, Comtesse de Nadaillac, The Bride, Madame Gabriel Luizet, Fisher Holmes, Madame Montet, Annie Wood, Marie Baumann, Cleopatra, Mrs. W. J. Grant, Gustave Piganeau, and Le Havre. Messrs. Harkness & Sons, Bedale, secured the third position out of the five exhibitors.

Mr. B. R. Cant was again first for forty distinct varieties, three flowers of each, and staged some splendid specimens. The varieties included La France, Gustave Piganeau, Mrs. J. Laing, Dupuy Jamain, A. K. Williams, Souvenir de S. A. Prince, Marquis Litta, Medea, Margaret Dickson, Duke of Teck, Madame Gabriel Luizet, Dr. Andry, Prince Arthur, Souvenir d'Elise Vardon, Général Jacqueminot, Maréchal Niel, Susanne Marie Rodocanachi, Golden Gate, Charles Lefebvre, Mrs. Sharman Crawford, Alfred Colomb, The Bride, Comte Raimbaud, Captain Hayward, Mrs. W. J. Grant, White Lady, Le Havre, Fisher Holmes, Souvenir d'un Ami, Duke of Edinburgh, Marchioness of Downshire, Kaiserin Augusta Victoria, Helen Keller, Marie Baumann, Catherine Mermet, Caroline Testout, Crown Prince, Ulrich Brunner, Lady Mary Fitzwilliam. The second position was assigned to Messrs. A. Dicksons and Son, Newtownards, with a charming stand, including amongst others Bridesmaid, Madame de Watteville, The Bride, Countess of Caledon, Dupuy Jamain, Marquis Litta, Mrs. Morrow, Mrs. W. J. Grant, and Madame Cusin. Messrs. F. Cant & Co. were third. The exhibitors in this class numbered six, and the quality throughout was good.

Four competitors came forward with forty-eight distinct single trusses, and here, as in other cases, the quality was very even. Messrs. D. Prior and Son were placed at the top with a stand containing Prince Arthur, Caroline Testout, Ulrich Brunner, Margaret Dickson, Marquis Litta, Marchioness of Dufferin, Helen Keller, Mrs. Sharman Crawford, Gustave Piganeau, White Lady, Dupuy Jamain, Mrs. W. J. Grant, Charles Darwin, Mrs. J. Laing, Duke of Edinburgh, La France, Kaiserin Augusta Victoria, Abel Carrière, The Bride, Etienne Levet, Madame G. Luizet, Comte Raimbaud, Souvenir de S. A. Prince, A. K. Williams, Magna Charta, Dr. Andry, Caroline Kuster, Prosper Langier, Alba Rosea, Prince Camille de Rohan, Rubens, Marie Baumann, Fisher Holmes, Marie Verdier, Alfred Colomb, Souvenir d'un Ami, Duke of Fife, Margaret Dickson, Edouard André, Marchioness of Downshire, Beauty of Waltham, Souvenir d'Elise Vardon, Horace Vernet, Cleopatra, Duke of Wellington, Marie Van Houtte, Mons. E. Y. Teas, and Lady Mary Fitzwilliam. Messrs. Townsend & Son were a remarkably close second with a splendid stand, comprising Fisher Holmes, Marquis Litta, Victor Verdier, Ulrich Brunner, Gustave Piganeau, Captain Hayward, Susanne Marie Rodocanachi, Madame de Watteville, and others. Messrs. J. Burrell & Co. were a good third.

There were seven competitors in the class for twenty-four distinct single trusses, and many handsome flowers were noticeable in the boxes, Mr. Chas. Turner, Royal Nurseries, Slough, went to the front with an even stand, comprising Caroline Testout, Charles Lefebvre, Général Jacqueminot, Ulrich Brunner, Gustave Piganeau, Pride of Waltham,

Beauty of Waltham, Etienne Levet, Dupuy Jamain, Madame Victor Verdier, Madame Gabriel Luizet, Duke of Edinburgh, Charles Lamb, Duke of Wellington, La France, Reynolds Hole, Kaiserin Augusta Victoria, Mrs. J. Laing, Duke of Teck, Marie Baumann, Prince Arthur, Helen Keller, and Duchess of Bedford. Mr. G. Prince, Oxford, was placed second with fresh flowers, of which the best were Comtesse de Nadaillac, Ulrich Brunner, A. K. Williams, Mrs. W. J. Grant, The Bride, and Sylph. Messrs. G. Cooling & Son, Bath, were third.

The premier position for twenty-four distinct varieties, three trusses of each, was taken by Messrs. D. Prior & Son with a capital stand. The varieties comprised Mrs. J. Laing, Gustave Piganeau, Lady Mary Fitzwilliam, Marquis Litta, Duke of Edinburgh, Kaiserin Augusta Victoria, Prince Camille de Rohan, Souvenir de S. A. Prince, Marchioness of Dufferin, A. K. Williams, La France, Magna Charta, Marie Van Houtte, Madame Gabriel Luizet, Abel Carrière, Alba Rosea, Mrs. Sharman Crawford, Prince Arthur, Caroline Testout, Ulrich Brunner, Marie Baumann, Souvenir d'un Ami, Mons. E. Y. Teas, and Mrs. W. J. Grant. Mr. G. Prince secured the second position. Amongst his best varieties were The Bride, Madame Hoste, Marquis Litta, Golden Gate, Mrs. Sharman Crawford, Captain Hayward, Bridesmaid, La France, and Comtesse de Nadaillac. Mr. C. Turner was third. There were five competitors in this class.

In competition for the Dickson cup, for twelve distinct Roses sent out by Messrs. A. Dickson & Sons, Newtownards, there were five stands. It is curious to relate that the offerers secured their own cup with Mrs. Sharman Crawford, Helen Keller, Mrs. W. J. Grant, Tom Wood, Robert Duncan, Jeanie Dickson, Countess of Caledon, Marchioness of Dufferin, Killarney, Ards Rover, Muriel Grahame and Daisy. Messrs. F. Cant and Co. were second, and Mr. B. R. Cant third.

Three growers came forward with twelve distinct varieties, shown in vases in bunches, Mr. J. Mattock securing the best prize with a bright stand. Messrs. Paul & Son were second, and Mr. G. Prince third.

NURSERYMEN—TEA AND NOISETTE SECTION.

In the class for twenty-four distinct Teas or Noisettes Mr. G. Prince was a splendid first amongst the four exhibitors. The majority of the blooms were fresh and bright, though some showed the effects of the weather. The varieties were Comtesse de Nadaillac, Souvenir de S. A. Prince, Madame de Watteville, Innocente Pirola, Maréchal Niel, Rubens, Mrs. Pierpoint Morgan, Cleopatra, Hon. Edith Gifford, Princess of Wales, Marie Van Houtte, Maman Cochet, The Bride, Francisca Kruger, Ernest Metz, Anna Olivier, Amazone, Madame Hoste, Catherine Mermet, Mons. Furtado, Souvenir d'un Ami, Muriel Grahame, Princess Beatrice, and Golden Gate. Messrs. Prior & Son were second with charming blooms of The Bride, Cleopatra, Souvenir d'Elise Vardon, Catherine Mermet, Maman Cochet, and Niphotos amongst others. Mr. B. R. Cant was third.

Five showed boxes of twelve Teas and Noisettes, and Mr. J. Mattock secured the highest position with an even stand. Messrs. Burrell & Co., Cambridge, were second, and Messrs. Townsend & Son, Worcester, third. Mr. G. Prince was first for eighteen trebles of Teas or Noisettes with a splendid stand. The varieties comprised Comtesse de Nadaillac, Souvenir de S. A. Prince, Souvenir d'un Ami, The Bride, Innocente Pirola, Luciole, Souvenir d'Elise Vardon, Catherine Mermet, Cleopatra, Madame Cusin, Princess of Wales, Rubens, Maréchal Niel, Ernest Metz, Medea, Bridesmaid, Marie Van Houtte, and Devonensis. Messrs. Prior & Son were second with smaller but bright and fresh flowers. Messrs. F. Cant & Co., Colchester, were third.

NURSERYMEN—GARDEN OR DECORATIVE ROSES.

In the class for thirty-six bunches of garden or decorative Roses, Messrs. Paul & Son, Cheshunt were first with a splendid stand containing Gustave Regis, Perle d'Or, Rosa Mundi, W. A. Richardson, Dawn, Camoens, Blanche de Coubert, Alister Stella Gray, Alba, Madame E. Resal, Una, Madame Pernet Ducher, Madame M. de Montraval, Marquis of Salisbury, Rose Apples, Ma Paquerette, Royal Scarlet, L'Idéal, and others. Messrs. G. Cooling & Son were a highly creditable second. The bunches of flowers were bright and well staged. These were the only exhibitors.

Mr. J. Mattock was first for eighteen distinct bunches of garden or decorative Roses with some beautiful flowers. Lucida plena, Ma Capucine, Madame Pernet Ducher, Marquis of Salisbury, Meg Merrilies, Hebe's Lip, W. A. Richardson, and Gloire de Polyantha were good. Mr. Chas. Turner was second.

OPEN—GENERAL SECTION.

Mr. B. R. Cant secured the first prize for twelve Hybrid Teas, distinct, with good flowers of La France, White Lady, Mrs. W. J. Grant, Kaiserin Augusta Victoria, Lady M. Fitzwilliam, Duchess of Albany, Antoine Rivoire, Caroline Testout, Souvenir de President Carnot, La Fraicheur, Clara Watson, and Marquis Litta. Messrs. D. Prior & Son were a good second, and Messrs. F. Cant & Co. third.

For twelve blooms of any white, Mr. G. Prince was first with Souvenir de S. A. Prince in fair condition, and was followed by Mr. B. R. Cant with Margaret Dickson, and A. Hill Gray, Esq., Bath, with The Bride. There were a dozen competitors. The premier prize for twelve of any yellow Rose went to Messrs. Prior & Son, Colchester, with beautiful blooms of Marie Van Houtte. Mr. G. Prince was second with Maréchal Niel, and Messrs. A. Dickson & Sons, Newtownards, third with Marie Van Houtte.

For twelve blooms of any light or dark crimson Rose Mr. C. Turner was first with grand examples of Ulrich Brunner. The flowers were of splendid substance and exceptionally rich in colour. Messrs. Townsend

and Son were second with handsome specimens of Gustave Piganeau, and Messrs. Harkness & Son, Bedale, third with Horace Vernet.

Mr. B. R. Cant secured the premier award for twelve blooms of any light pink or rose coloured Rose with Mrs. W. J. Grant in splendid condition, and was followed by Messrs. A. Dickson & Sons with the same variety, and Mr. C. Turner with Mrs. J. Laing. There were thirteen exhibitors in the class. Mr. G. Prince, with marvellously coloured Comtesse de Nadaillac, was first in the class for twelve blooms of any Tea or Noisette. Messrs. Townsend & Son were second with Rubens, and Messrs. Prior & Sons third with the same variety. There were ten competitors.

For twelve blooms of any new Rose Mr. B. R. Cant was first with Mrs. W. J. Grant in fine condition, and Messrs. A. Dickson & Sons second with Ulster, and Messrs. Paul & Son third with the Rev. A. Cheales. For twelve distinct new varieties Mr. B. R. Cant maintained his position in the front. The varieties were Mavourneen, Beauté Lyonnaise, Mrs. W. J. Grant, Mrs. Rumsey, Helen Keller, Souvenir de President Carnot, Empress Alexandra, Madame Cadeau Ramey, Tom Wood, Antoine Rivoire, Marguerite Appert, and Souvenir de Jeanie Cabaud. Messrs. A. Dickson & Sons were second, and Messrs. Paul & Son third.

OPEN—GARDEN OR DECORATIVE ROSES.

In the class for twelve bunches of single garden or decorative Roses, Messrs. Cooling & Son were first with rugosa, rugosa alba, humulus, Yellow Austrian Briar, macrantha, pisocarpa, himalayica, Paul's Single White, Crimson Bedder, Lucy Ashton, and villosa nivea. Messrs. Paul and Son were a good second. Mr. G. Prince was first for nine distinct varieties of Roses suitable for buttonholes; Mr. J. Mattock being second. Mr. O. G. Orpen, Colchester, was first for three sprays of Roses, and was followed by Mr. G. Prince in the second place.

AMATEURS—GENERAL SECTION.

The champion trophy, offered by the National Rose Society for thirty-six distinct single trusses, open only to amateurs, was won by E. B. Lindsell, Esq., Hitchin, who staged in his customary excellent style. The varieties comprised Captain Hayward, Gustave Piganeau, Chas. Lefebvre, Duchesse de Vallombrosa, Beauty of Waltham, Mrs. J. Laing, Ulrich Brunner, White Lady, Maurice Bernardin, Marchioness of Dufferin, Dupuy Jamain, Mrs. Sharman Crawford, Mrs. W. J. Grant, Horace Vernet, Maman Cochet, Duke of Edinburgh, Madame Cusin, Comte Raimbaud, Marie Van Houtte, Souvenir d'Elise Vardon, A. K. Williams, Madame Hausmann, Caroline Kuster, Earl of Dufferin, Helen Keller, Marie Baumann, Heinrich Schultheis, Duke of Wellington, Susanne Marie Rodocanachi, Sénateur Vaisse, Madame de Watteville, Xavier Olibo, and The Bride. The Rev. J. H. Pemberton, Havering-atte-Bower, was second with a decidedly weaker stand. S. P. Budd, Esq., Bath, was third. There were six competitors in the class.

F. W. Flight, Esq., Cornstiles, Twyford, staged a fine collection in the class for twenty-four distinct varieties, and was placed first with the following varieties—Lady M. Fitzwilliam, Marquis Litta, White Lady, A. K. Williams, Ulrich Brunner, La France, Captain Hayward, Mrs. J. Laing, Etienne Levet, Dr. Andry, Helen Keller, Mrs. Sharman Crawford, Margaret Dickson, Duke of Wellington, Violette Bowyer, Le Havre, Souvenir d'Elise Vardon, Chas. Lefebvre, Jeanie Dickson, Chas. Gater, Comtesse de Ludre, Hon. Edith Gifford, Abel Carrière, and Susanne Marie Rodocanachi. R. E. West, Esq., Reigate, was a creditable second, and Mr. W. Mease, gardener to A. Tate, Esq., Leatherhead, a close third. There were five entries in this class, which was open only to growers who have not won the champion trophy during the past ten years.

E. B. Lindsell, Esq., was again first for twelve distinct varieties, three blooms of each, with Chas. Lefebvre, Souvenir d'Elise, Captain Hayward, Helen Keller, Dr. Sewell, Gustave Piganeau, A. K. Williams, Duchesse de Vallombrosa, Beauty of Waltham, Susanne Marie Rodocanachi, Ernest Metz, and Duke of Wellington, all in splendid form. Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Reigate, was second with smaller examples, and Col. J. H. Pitt, Maidstone, third.

In the class for twelve blooms of any Rose, except Tea or Noisette, C. J. Grahame, Esq., Leatherhead, was first with grand examples of White Lady, and was followed by E. B. Lindsell, Esq., with Horace Vernet in fine form, and S. P. Budd, Esq., with Caroline Testout, in the order in which their names are here given.

Open to Growers of Less than 2000 plants.—For eighteen distinct varieties, Conway Jones, Esq., Gloucester, was put at the head of the eleven growers who staged. The stand comprised Charles Lefebvre, Kaiserin Augusta Victoria, Victor Hugo, La France, Horace Vernet, Maréchal Niel, Gustave Piganeau, Charles Darwin, The Bride, Comte Raimbaud, Mrs. J. Laing, A. K. Williams, Rosieriste Jacob, Mrs. W. J. Grant, Tom Wood, Susanne Marie Rodocanachi, Comtesse de Ludre, and Jeanie Dickson. E. M. Bethune, Esq., Denne Park, Horsham, secured the second prize with a fine stand, which contained amongst others in good condition Victor Hugo, Margaret Dickson, Gustave Piganeau, Captain Hayward, and A. K. Williams. R. E. West, Esq., was third.

For eight trebles, R. E. West, Esq., with Mrs. Sharman Crawford, Duke of Edinburgh, Susanne Marie Rodocanachi, Captain Hayward, Earl of Dufferin, Mrs. Paul, Général Jacqueminot, and Margaret Dickson was placed in the premier position, and was followed in the second place by Percy Burnand, Esq., and in the third by W. C. Romaine, Esq., Windsor, neither of whom was very strong. E. M. Bethune, Esq., with Kaiserin Augusta Victoria in fine form was first for nine blooms of any Rose other than a Tea or Noisette. The Rev. H. A. Berners, Harkstead Rectory, was second with Margaret Dickson, and Percy Burnand, Esq., third with Duke of Wellington.

Open to Growers of Less than 1000 Plants—G. Moules, Esq., Hitchin, was an easy first for twelve distinct single trusses, showing an even stand of A. K. Williams, Maman Cochet, Captain Hayward, Caroline Testout, Marie Baumann, Horace Vernet, Rubens, Comte Raimbaud, Duke of Wellington, Ulrich Brunner, Prince Arthur, and Exposition de Brie. R. F. Hobbs, Esq., Worcester, was second; M. Whittle, Esq., Leicester, third. There were nine exhibitors in the class.

Open to Growers of Less than 500 Plants.—The premier award in the class for nine distinct varieties went to J. C. Trueman, Esq., Swanley, who showed well. H. Foster, Esq., Ashford, was second; and R. W. Bowyer, Esq., Hertford, third. There were nine competitors. Mr. G. A. Hammond was first for six distinct, and was followed by R. Cook, Esq., Stonebridge Park, and W. D. Freshfield, Esq., Reigate, in the order named.

Open to Exhibitors in the Three Previous Classes.—G. Moules, Esq., was a splendid first for twelve distinct varieties, winning the challenge cup offered by Mr. C. J. Grahame with a dozen beautiful specimens. The varieties comprised A. K. Williams, Madame Hoste, Captain Hayward (poor), Anna Olivier, Hon. Edith Gifford, Fisher Holmes, Rubens, Dr. Sewell, Exposition de Brie, La France, Rosieriste Jacob, and Horace Vernet. L. Parry, Esq., Dorchester, was second, and E. Wilkins, Esq., Sidcup, third. For four trebles Mr. E. Wilkins was first, Mr. Hodgson, Croydon, second, and the Rev. J. H. Scott-Tucker, Oxford, third. For six blooms of any Rose other than a Tea or Noisette, G. W. Cook, Esq., was first with Mrs. W. J. Grant; L. Parry, Esq., second with Margaret Dickson; and E. Wilkins, Esq., third.

Open to all Amateurs.—The silver cup, open to competition for all amateurs, that is offered by Captain Ramsey was won by O. G. Orpen, Esq., Colchester, who staged Marquis Litta, Kaiserin Augusta Victoria, Mrs. W. J. Grant, Souvenir d'Elise Vardon, Catherine Mermet, Horace Vernet, Rubens, Maréchal Niel, Captain Hayward, Lady Mary Fitzwilliam, A. K. Williams, and Margaret Dickson. The second and third prizes went to the Rev. J. H. Pemberton and Percy Burnand, Esq., in the order named. There were thirteen exhibitors in this class. For nine varieties shown in bunches on a given space the Rev. J. H. Pemberton was apparently the only exhibitor, and secured the premier prize.

Open to Amateurs who have never won a prize of the N.R.S.—In the class for six varieties, distinct, J. Carter, Esq., Halstead, was first with Caroline Testout, Ulrich Brunner, Niphetos, Duke of Edinburgh, Mrs. J. Laing, and Prince Arthur, each in good form. G. V. A. Schofield, Esq., Sutton, was second; and J. Hunt, Esq., Hitchin, third. For six blooms in not less than four varieties J. Hinton, Esq., was first; J. Hunt, Esq., second; and F. Valentine, Esq., King's Lynn, third.

Langton Memorial Cup.—This is offered for six distinct Roses grown within eight miles of Charing Cross, and was won by G. W. Cook, Esq., with a good stand, followed by A. C. Gifford, Esq., South Norwood, and J. Bateman, Esq., Archway Road, N.

C. Jones, Esq., secured the first prize in the class for six new Roses, distinct, open to all amateurs, with Helen Keller, Marjorie, Mrs. W. J. Grant, Princess de Venosa, Tom Wood, and Sylph. O. G. Orpen, Esq., was second, and the Rev. J. H. Pemberton, third.

AMATEURS—TEA AND NOISSETTE SECTION.

The Tea and Noisette trophy class for eighteen distinct varieties was well won by A. Hill Gray, Esq., Bath, who showed splendidly. The varieties included Maréchal Niel, Catherine Mermet, Medea, Comtesse de Nadaillac, Souvenir d'Elise Vardon, Maman Cochet, The Bride, Cleopatra, Souvenir de S. A. Prince, Bridesmaid, Princess Beatrice, Ernest Metz, Souvenir d'un Ami, Marie Van Houtte, Hon. Edith Gifford, Comtesse Panisse, Alba Rosea, and Jules Finger. C. Jones, Esq., was a good second, and O. G. Orpen, Esq., third. The number of exhibitors in this class was five.

In the class for twelve Teas or Noisettes, Mr. A. H. Gray, Beaulieu, Bath, was first with a fine even stand. The varieties were Ernest Metz, Souvenir d'Elise Vardon, Maréchal Niel, Bridesmaid, The Bride, Maman Cochet, Souvenir de S. A. Prince, Comtesse de Nadaillac, Catherine Mermet, Alba Rosea, Anna Olivier, and Souvenir d'un Ami. Mr. A. Tate, Leatherhead, was second with a good exhibit hardly so even as the preceding. Mr. E. M. Bethune, Denne Park, Horsham, took the third place.

For eight distinct triplets, Teas or Noisettes, Mr. Hill Gray was again successful, winning the piece of plate presented as a memorial of the late Rev. the Hon. J. T. Boscawen. The varieties utilised were The Bride, Comtesse de Nadaillac, Maréchal Niel, Ernest Metz, Princess of Wales, Madame Hoste, Catherine Mermet, and Souvenir de S. A. Prince. Dr. S. P. Budd, Bath, was second, and Colonel J. H. Pitt, Maidstone, third.

For nine blooms, one variety, Mr. A. H. Gray repeated his successes with a good stand of Catherine Mermet. Dr. S. P. Budd secured second with good flowers of Madame Hoste, and Mr. E. M. Bethune third with Comtesse de Nadaillac.

Open to Growers of Less than 500 Teas and Noisettes.—For twelve blooms, distinct, Mr. Conway Jones, Hucclecote, Gloucester, was placed first with an even exhibit. The best flowers were Cleopatra, The Bride, Bridesmaid, Madame Hoste, Medea, and Ernest Metz. Mr. R. F. Hobbs, Worcester, was second; and Mr. A. Evans, Marston, Worcester, third.

For nine blooms, distinct, Mr. J. T. Strange, Aldermaston, secured first honours with fresh flowers of The Bride, Marie Van Houtte, Madame Lambard, and Bridesmaid. Mr. Edward Mawley, Berkhamstead, was placed second, and Miss Baker, Reigate, third.

Open to Growers of Less than 200 Teas and Noisettes.—For nine distinct varieties, Mr. M. Whittle, Leicester, secured the first prize and piece of plate with rather small flowers in good condition. The best were Madame Hoste, Princess of Wales, Maman Cochet, and Caroline Kuster. Mr. A. Munt, Slough, was placed second, and Mr. W. D. Freshfield,



FIG. 1.—CYPRIPEDIUM PANSONI. (See page 9.)

Reigate, third. For six blooms, distinct, the Rev. G. E. Jeans, Shorewell Vicarage, Isle of Wight, was placed first with a capital exhibit. The varieties were Medea, Maman Cochet, Rubens, Anna Olivier, Madame Hoste, and The Bride. Mr. J. C. Trueman, Swanley, was second; and Mr. R. W. Bowyer, Haileybury College, Hertford, third.

For four triplets Mr. Conway Jones was easily first, showing good blooms of Comtesse de Nadaillac, Caroline Kuster, Souvenir de S. A. Prince, and Catherine Mermet. Mr. R. E. West was second; and the Rev. R. Powley, Warminster, third. This and the succeeding class were open only to exhibitors in the preceding four classes. For six Roses of one variety, Mr. Conway Jones was well ahead with grand blooms of Maréchal Niel. Mr. L. Barry, Dorchester, second with good Hon. Edith Gifford; and Mr. M. Whittle third with Caroline Kuster.

In the open to all amateurs class for six vases of distinct Roses, seven trusses of each, Mr. O. G. Orpen, Colchester, was placed first with good Anna Olivier, Marie Van Houtte, The Hon. Edith Gifford, and Souvenir d'un Ami. Mr. A. Evans Marston, Oxford, was second.

For six blooms, three varieties, Mr. J. Hinton, Bathcaston, was placed first with good blooms of Comtesse de Nadaillac, Medea, and Catherine

Mermet. Mr. J. Carter, Halstead, was second with fresh flowers, and Rev. J. H. S. Tucker, Headington Vicarage, Oxford, third. This class was open only to growers who had not previously won a prize at an exhibition of the National Rose Society.

AMATEURS—GARDEN OR DECORATIVE SECTION.

A strong competition was forthcoming for twelve distinct varieties of garden Roses. Mr. A. Tate, Leatherhead, secured the silver cup with a fine exhibit. The varieties staged were Reine Olga de Wurtemberg, Hebe's Lip, Bardou Job, Gustav Regis, W. A. Richardson, Rosa Mundi, Safrano, Gloire de Rosamènes, Perle d'Or, Marquis of Salisbury, Anna Maria Montravel, and Red Damask. The Rev. J. H. Pemberton, Havering, was second with a smaller display, and Mr. O. G. Orpen third.

For eight distinct varieties, Mrs. A. F. Perkins, Holmwood, secured first honours with very large bunches. Miss D. Nesfield, Staplehurst, was a good second, and Miss B. H. Langdon third. For six distinct Roses, shown in a prescribed space, E. Wilkins, Esq., was first; J. W. Jones, Esq., Woking, second; and the Rev. G. Moor third.

For twelve vases of Penzance Sweet Briars, Mr. O. G. Orpen secured first with a charming exhibit. Mr. F. W. Campion, Reigate, was second with rather smaller bunches. For a vase of cut Roses Mrs. O. G. Orpen, Colchester, secured the first prize with a very tasteful arrangement. Mrs. E. Mawley was second; and Miss Langton third.

PREMIER BLOOMS.—The six premier blooms chosen by the Judges as the best in the show were of exceptional merit. They were Comtesse de Nadaillac, from Mr. Alex. Hill Gray; White Lady, from Mr. Chas. J. Grahame; and Mrs. John Laing, from Mr. E. B. Lindsell, representing Tea, Hybrid Tea, and Hybrid Perpetual in the amateurs' section, with Comtesse de Nadaillac, from Mr. George Prince; Mrs. W. J. Grant, from Mr. B. R. Cant; and Gustave Piganeau, from Messrs. Townsend and Son in the nurserymen's section.

GOLD MEDAL ROSE.—This great honour was attached to a variety named Purity, sent by Messrs. G. Cooling & Son, Bath. As the name implies, it is white in colour, and is of good form. It is said to be extremely free flowering.

MISCELLANEOUS EXHIBITS.

Messrs. Barr & Sons, King Street, Covent Garden, staged a large exhibit of hardy flowers. Delphiniums in variety, Irises, Achilleas, Pæonies, Papavers, Heucheras, and Pinks formed the leading features, the whole forming an interesting group. Messrs. Wm. Cutbush & Son, Highgate, had an extensive display of Carnations, chiefly of the Malmaison type, arranged with Palms, Bamboos, and Ferns. Mr. Wm. Rumsey exhibited Rose Mrs. Rumsey in first-rate style. Mr. F. G. Foster, Havant, staged a good collection of Sweet Peas in excellent condition.

Messrs. J. Laing & Sons, Forest Hill, had a fine display of both single and double Begonias, arranged artistically with a groundwork of Ferns, Caladiums, Dracænas, Crotons, and Grasses, backed by large Palms. In other parts of the exhibition this firm had hardy plants and floral decorations. Messrs. Veitch & Sons, Chelsea, filled a large space with Roses in pots, which were remarkable for their dwarf character, many of the plants being less than a foot high, and each bearing five or six good flowers. Messrs. Dobbie & Co., Rothesay, staged a pretty exhibit of Sweet Peas and Violas.

Messrs. Geo. Jackman & Son, Woking, showed a collection of garden Roses, Sweet Peas, Delphiniums, and herbaceous plants. Mr. Wm. Spooner, Woking, had Tea and garden Roses in good form. Messrs. J. Cheal & Sons, Crawley, had an attractive exhibit of hardy flowers Roses, and Violas.

Messrs. H. Cannell & Sons, Swanley, had a fine display of Cannas arranged with Maidenhair Ferns. Messrs. R. Wallace & Co., Colchester, staged an extensive display of Liliiums, with Irises, Delphiniums, Ixias, and other flowers. Messrs. G. Bunyard & Co., Maidstone, had an extensive exhibit of Roses, and Messrs. Laxton Bros., Bedford, exhibited fine baskets of their Strawberries Monarch, Leader (very fine), Mentmore, and Royal Sovereign; the fruits were excellent, and had travelled well.

ISLE OF WIGHT.—JUNE 28TH.

THE Isle of Wight Rose Society held its annual exhibition in the beautiful grounds adjoining Carisbrooke Castle. The day was fine, and the attendance large through the exertions of the Honorary Secretaries, the Rev. G. E. Jeans and Mr. E. V. Matthews.

In the open classes Mr. B. R. Cant was first, and Messrs. F. Cant and Co. second for twenty-four Roses, distinct varieties; whilst for twelve, distinct, Teas or Noisettes, the order was reversed. Messrs. F. Cant and Co. were also first for twelve bunches of garden Roses, distinct, not less than three trusses to a bunch.

Mr. C. Pince was first for bouquet of Roses and for two sprays of Roses for ladies' wear. The Rev. A. T. Richardson was first for three buttonholes, and Miss Bull second. Mr. B. R. Cant secured the silver medal offered for the best Rose in show with Mrs. John Laing. Mr. J. O. Brook was first in the amateurs' class for eighteen Roses, distinct varieties.

In the Isle of Wight classes, open to members of the I.W.R.S. only, Miss Croft-Murray won the I.W. silver challenge cup with twenty-four distinct Roses. Mr. J. Lee-White was second, and the Rev. G. E. Jeans third. The Queen's gold medal for twelve distinct Roses was won by Major O. Moulton-Barrett. Miss Murray was first for twelve distinct Teas. For six trusses, any one variety, Tea or Noisette, Lady Hamond Græme was first, the Rev. G. E. Jeans second, and Miss Murray third. For four distinct Teas or Noisettes, three blooms of each in distinct stages of growth, bud half open and full, Miss G. Carter was first, Mr. J. O.

Brook second, and Mr. Geo. Williams third. Rev. L. Knights-Smith was first for six bunches of garden Roses, distinct, and Miss Carter second.

For twelve distinct, restricted to growers of less than 300 plants of exhibition varieties, Miss Carter was first, Miss Ward second, and the Rev. A. T. Richardson third. Miss Carter was also first for three distinct, three trusses of each. In the division restricted to growers of less than 150 plants of exhibition varieties, the Rev. R. L. Morris was first for twelve Roses, any number of varieties, Lady Mary Gordon second, and Lady Daly third. For six distinct, the Rev. C. W. Heald was first, Lady Daly second, and Lady Mary Gordon third. Miss Croft-Murray secured the silver medal for the best Rose of any sort shown from the Island with Mrs. W. J. Grant. For twenty-four Roses open to the Island, Miss Murray was first, and Mr. J. O. Brook second.

CANTERBURY.—JUNE 29TH.

ON the above date a few enthusiastic members of the Canterbury Rose Society made a gallant attempt to make the twentieth annual exhibition of the Society a success. It cannot be said that their efforts were attended with results of a highly satisfactory nature, judging from the amount of unoccupied tabling in the Foresters' Hall, and the scarcity of competitors in some of the principal classes. The lateness of the season and the recent inclement weather were no doubt chiefly accountable for this, and to the same cause may be attributed the fact that many of the blooms were lacking in quality. To this there were a few bright exceptions, including the flowers staged by Mr. R. E. West, Mr. H. Walters, Eastwell Park; and Mr. G. Mount, the well known Canterbury grower.

Only two exhibitors appeared in the class for eighteen blooms in distinct varieties. Mr. R. E. West, Reigate, won with fresh flowers of La France, Captain Hayward, Mrs. W. J. Grant, Gustave Piganeau, Mrs. Paul, Duke of Edinburgh, Comte Raimbaud, Madame Gabriel Luizet, Général Jacqueminot, Duchess de Vallombrosa, La France No. 2, Mrs. Sharman Crawford, Mrs. C. Swailes, Prince Arthur, Marie Van Houtte, Dr. Andry, Margaret Dickson, and Earl of Dufferin. Mr. Cooper Wachter was awarded second prize. Mr. R. E. West had the best twelve Roses. The Rev. H. B. Biron, Lympne, was the only other exhibitor, and took second prize.

Mr. R. E. West was awarded first prize for six varieties of Roses, three trusses of each, but the flowers had no great merit. In the section open to growers of less than 1000 plants, Mr. H. Walters, Eastwell Park, showed a fine stand of twelve varieties which easily took first prize. This was the finest amateur's exhibit in the show, and comprised grand blooms of A. K. Williams, Mrs. Sharman Crawford, Prince Arthur, Gustave Piganeau, Beauty of Waltham, Magna Charta, Captain Hayward, Kaiserin Augusta Victoria, Marie Baumann, Crown Prince, and Dupuy Jamain. Miss A. M. Hawksworth was second in this class, and Mr. J. Stoneby, Canterbury, third. Mr. H. Walters also showed the best nine Roses, the most conspicuous being Captain Hayward and Caroline Testout. The second and third prizes went to Mr. S. Hill, Dean Wingham, and Mr. H. Foster in the above order. For four varieties of Roses, three trusses of each, Mr. H. Walters was an easy first, showing Captain Hayward, Dupuy Jamain, Duke of Edinburgh, and La France. Mr. S. Hill, Dean, was second, and Miss Hawksworth third.

The Rev. H. G. Rolt had the best nine blooms (open to growers of less than 300 plants), but these were only moderate, and Canon Holland took the second place. In the class for six trusses the Rev. J. R. Buchanan, Herne, was first, Mrs. J. Laing, Camille Bernardin, and Alfred Colomb being the best blooms. Mr. W. Saunders took second place, and the Rev. H. G. Rolt third. Canon Holland was an easy first with three varieties, three trusses of each, showing Ulrich Brunner, Eugène Furst, and John Hopper. The Rev. H. G. Rolt was a fair second. Mr. H. Walters had the best six blooms of one variety, Mr. J. Stonley was second, and the Rev. H. B. Biron third. Mr. Cooper Wachter had the best nine Teas, amongst which were good flowers of Maréchal Niel, The Bride, Jules Finger, and Rubens. The second prize went to Mr. W. Saunders.

Mr. R. E. West was a good first for six Teas, showing The Bride, Madame Cusin, Madame de Watteville, Souvenir de S. A. Prince, Marie Van Houtte, and Rubens. The Rev. H. B. Biron was a fair second, and the Rev. F. R. Burnside third. In the class for six trusses of any Rose Mr. W. Sanders was first with Anna Ollivier; Mr. S. Hill, Dean, second, and the Rev. H. G. Rolt third. Mr. George Mount was the only exhibitor in the open class for thirty-six blooms, and showed a stand worthy of his high reputation. Noticeable in the exhibit were fine blooms of Dupuy Jamain, Duchess of Bedford, Mrs. J. Laing, Caroline Testout, Ulrich Brunner, Mrs. W. J. Grant, The Bride, Thomas Mills, Fisher Holmes, and Captain Christy. The same exhibitor also showed the only stand of twelve Teas in the open class, the flowers comprising it being fresh in character and elegant in form. A few well-arranged baskets of Roses were also shown; and Mr. G. Mount staged a good selection of blooms, not for competition.

CROYDON.—JUNE 29TH.

THE thirty-first exhibition of this Society was held in the grounds of Brickwood House, East Croydon. While the general show exhibits no falling off whatever, the competition amongst the rosarians was not very keen. Many exhibitors are missing, and the general character of the Rose exhibits must be described as below the average.

Only two competitors staged in the class for forty-eight Roses, distinct, Messrs. F. Cant & Co., Colchester, securing premier honours with a very good exhibit. The varieties were Dupuy Jamain, Princess Beatrice, Duke of Wellington, Cleopatra, Duchess of Bedford, Jeannie

Dickson, Helen Keller, Caroline Testout, A. K. Williams, Mrs. F. Cant, Madame Gabriel Luizet, Victor Hugo, Marchioness of Dufferin, Marquis Litta, Mrs. W. J. Grant, Marchioness of Downshire, Duke of Albany, Ethel Brownlow, Captain Hayward, Marguerite de St. Amand, Medea, Devonensis, Crown Prince, Mrs. Sharman Crawford (good), Auguste Rigotard, Ernest Metz, Beauty of Waltham, Rubens, Alfred Colomb, Princess of Wales, François Michelin, Niphotos, La France, Abel Carrière, Comtesse de Nadaillac, Dr. Andry, Catherine Mermet, Reynolds Hole, Souvenir d'un Ami, Maréchal Niel, Duke of Teck, Jules Finger, Madame Cusin, Maman Cochet, Dr. Sewell, and Susaune M. Rodocanachi. Messrs. D. Prior & Son, Colchester, were a close second.

In the class for twenty-four triplets Messrs. F. Cant again proved the victors with a very good exhibit, Mrs. W. J. Grant (grand), Duke of Connaught, Marchioness of Downshire, Prince Arthur, Duke of Wellington, Viscountess Folkestone, Beauty of Waltham, Clara Watson, Lady Mary Fitzwilliam, Crown Prince, Maréchal Niel, Cleopatra, Maurice Bernardin, Rubens, Fisher Holmes, Souvenir d'un Ami, Mrs. Sharman Crawford, Général Jacqueminot, Mrs. F. Cant, Duke of Teck, Captain Hayward (good), Souvenir d'Elise, Dr. Andry, and La France. Messrs. D. Prior & Son, Colchester, were again second.

In the class for twenty-four Roses, distinct, Mr. J. R. Box, Croydon, secured first place with a stand containing good flowers of Magna Charta, Margaret Dickson, Spenser, Lady Mary Fitzwilliam, Madame Cochet, Kaiserin Augusta Victoria, Beauty of Waltham, and Mrs. Sharman Crawford. The second place fell to Mr. A. G. Green, Roselands Nursery, Colchester, and the third place was taken by Mr. Thos. Butcher, Shirley.

Messrs. D. Prior & Son were placed first in the class for eighteen Teas or Noisettes, distinct, with an even stand containing Caroline Kuster, Madame Cusin, Ernest Metz, Souvenir de S. A. Prince, Innocente Pirola, Devonensis, Souvenir d'Elise, Marie Van Houtte, Hon. Edith Gifford, Souvenir d'un Ami, Madame Hoste, Cleopatra, Maman Cochet, The Bride, Amazone, Madame Bravy, Rubens, and Anna Olivier. Messrs. F. Cant & Co. came second. Messrs. D. Prior & Son were the only exhibitors of twelve Roses, one variety, with a fine exhibit of Mrs. W. J. Grant, which secured the first prize. For twelve Teas or Noisettes, one variety, Mr. A. G. Green was first with a capital exhibit of Souvenir d'Elise Vardon. Messrs. D. Prior & Son second with an exhibit of Souvenir de S. A. Prince.

Only one exhibitor faced the judges in the amateur cup class for thirty-six Roses, distinct, Mr. A. Slaughter, Jarvis Villa, Steyning, to whom the award fell. The exhibit was below the average, the best flowers being Violette Bowyer, Charles Lefebvre, Mrs. G. Dickson, Madame Gabriel Luizet, Madame Lambard, Horace Vernet, and Caroline Kuster. In the class for twenty-four Roses, distinct, this exhibitor was again the only competitor, and was awarded the first prize with a very moderate display. In the class for twelve Roses, one variety, Mr. E. M. Bethune, Horsham, was awarded first prize for a very good exhibit of A. K. Williams.

In the local competition for the challenge cup Mr. A. C. Gifford, Cornwalls, South Norwood, was placed first with a stand containing good flowers of Jeanie Dickson, Caroline Testout, Dr. Andry, and Charles Lefebvre. Mr. M. Hodgson, Shirley, was second, and Mr. F. W. Amsden, Croydon, third.

The groups of plants were quite a feature of the show. In the premier class Mr. J. Harris, gardener to Philip Crowley, Esq., Waddon House, was deservedly awarded premier honours with a group of very artistic arrangement. It consisted chiefly of Orchids in variety, Lilliums, Ferns, Palms, Caladiums, Crotons, and Dracenas. Mr. C. Lane, gardener to E. H. Coles, Esq., Upper Caterham, second, with a very bright and well-arranged group. Mr. J. W. Hicks, gardener to C. D. Lord, Esq., Sydenham Hill, third, with a smaller though pretty group.

Of miscellaneous exhibits Messrs. Barr & Sons, Covent Garden, staged hardy flowers; H. Cannell & Sons, Swanley, double Begonias; H. J. Jones, Lewisham, double and single Begonias; J. Laing & Sons, Forest Hill, Begonias; J. Cheal & Sons, Crawley, hardy flowers; and J. R. Box, Croydon, hardy flowers and Begonias.

NORWICH.—JUNE 30TH.

AFTER my elaborate arguments in the Journal last year, to show that Norwich is a Northern City, and therefore fitted for the Northern Show of the N.R.S., which was held there, it was rather trying that the authorities had on this late season fixed upon a date in June, and thereby prevented me and other old habitués from exhibiting. The show was held in Bracondale Woods, very handy to Trowse Station, and little rain fell, though the day was gloomy. The severity of the Rose famine, that was so apparent at Colchester, showed some small signs of abating, but only in the professional classes; and withheld first prizes, empty classes, and such items as the menus provided for the judges in the show boxes, as Reine Marie Henriette and Gloire de Dijon, proclaimed the nakedness of the land.

For forty-eight, open, Mr. B. R. Cant was first, La France (good everywhere), Marchioness of Dufferin, White Lady, and Antoine Rivoire being among his most noticeable blooms. Messrs. Paul & Son, of Cheshunt, were second, having a fine bloom of Viscountess Folkestone, and a large weather-stained example of Rev. Alan Cheales, which seems fine in petal, but loose. Only one entry in the class for eighteen trebles, Mr. B. R. Cant taking first prize with fair triplets of Mrs. W. J. Grant, Mrs. John Laing, and Mrs. Sharman Crawford. No entry for eighteen Teas, and only one for twelve new Roses, where Messrs. Paul & Son were first, but the examples were not good.

Only one exhibit in the principal class (thirty-six) for amateurs, where

Miss Penrice of Whitton was awarded a second prize. Here was a splendid La France, with Mrs. Sharman Crawford and Cleopatra good, but there were many bad ones. In the class for twenty-four the challenge cup for amateurs of Norfolk was withheld, the second prize going to Mr. T. C. Blofeld, and the third to Col. Ross. Improvement was to be seen in the class for eighteen, Rev. A. L. Fellowes taking the first prize, having Caroline Testout, Mrs. W. J. Grant, and Catherine Mermet, in good condition; and a very nicely coloured specimen of Bridesmaid, which gained the medal as the best Tea. Rev. F. Page Roberts was second, and Mr. Bouchier of Plumstead, who showed a nice Comtesse de Nadaillac, third. The last-named gentleman was first for twelve Roses, having creditable specimens of La France, Souvenir d'Elise, and Comtesse de Nadaillac. Mr. Page Roberts second with neat small flowers, and to find a third and fourth out of three other boxes involved the trouble that is always present when it is necessary to decide which is the worst instead of the best. It was solved liberally by giving equal fourths. For twelve Teas, Mr. D. C. Warnes of Eye was first with a fair stand considering the season; Miss Penrice second, with Ernest Metz and Cleopatra good, but some very bad ones.

For twelve H.P.'s of a variety Miss Penrice showed a really fine stand of La France, three or four of them (one of which had the medal as best H.P.) being of the first size and quality. For six H.P.'s of one variety, Jeannie Dickson was chosen by both competitors. Mr. Owles of Bungay was first and Mr. Page Roberts second. For twelve Teas (similar) Mr. Blofeld was first with Edith Gifford, and Miss Penrice second with Niphotos in bad condition. Mr. Warnes was first for six Marie Van Houttes. For twelve trebles Miss Penrice gained first prize with a fair exhibit for the season. Garden Roses were well shown by Miss Lyde, who deservedly gained first prize.

If the Roses were weak, the deficiency was well made up in the herbaceous classes, which were magnificent. The flowers had not suffered from drought, and the lateness of the season enabled some sorts and varieties to be shown which are generally over. In the open class for forty-eight Mr. Burrell of Cambridge was first. The bunches were a little dumpy and rounded, but the flowers themselves were in capital condition. Miss Petre, with a more spiky and artistic display, was a very good second. Messrs. Jacobi and Notcutt of Ipswich third and fourth respectively. Mr. Page Roberts was a good first for thirty-six (amateurs), Peony, The Bride, and Cypripedium spectabile being shown well. Col. Ross, whose exhibit was rather crowded, was second, and Sir A. Jodrell third. For twenty-four Mr. Warnes was first, and Mr. Corder second.

As I left, after being hospitably entertained to luncheon by Mr. Russell J. Colman at the house, the good people of Norwich were coming in in crowds, and the gatekeepers were "taking money with both hands."

—W. R. RAILLEM.

HARROW.—JULY 5TH.

THIS fixture proved to be a capital exhibition. The entries were very numerous, not only in the local classes, but also in the open division. The Roses, as usual, were the leading feature. The decorative classes deserve a special word of praise, many of the tables being exceedingly pretty, while all the local classes were well filled; this was especially noticeable in the cut flower division.

In the premier class for thirty-six Roses, distinct, there was a decidedly strong competition. Mr. B. Cant, Colchester, was ultimately awarded first place; the blooms were Cleopatra, S. M. Rodocanachi, Caroline Testout, Helen Keller, Madame Eugène Verdier, Horace Vernet, White Lady (very fine), Prince Arthur, La France, Marquis Litta, Mrs. John Laing, Ulrich Brunner, Marchioness of Downshire, Crown Prince, Ernest Metz, Marie Verdier, Bridesmaid, Général Jacqueminot, Golden Gate, Victor Hugo, Madame G. Luizet, Marie Baumann, Catherine Mermet, Alfred Colomb, Lady Mary Fitzwilliam, Heinrich Schultheis, Duke of Teck, Souvenir d'un Ami, Mrs. Paul, Dupuy Jamain, Souvenir d'Elise Vardon, La Fraicheur, Margaret Dickson, Auguste Rigotard, Souvenir de S. A. Prince, and A. K. Williams. Messrs. Prior & Son, Colchester, were second; and Mr. George Prince, Oxford, third.

For twelve Teas or Noisettes, distinct, Mr. George Prince proved the victor with Maman Cochet, Souvenir de S. A. Prince, Comtesse de Nadaillac, Innocente Pirola, Cleopatra, Catherine Mermet, Bridesmaid, Muriel Grahame, Princess of Wales, and The Bride. Mr. B. Cant was second, and Messrs. D. Prior & Son third.

In the amateurs' class for twenty-four Roses, distinct, open to all England, the Rev. J. H. Pemberton, Havering, scored first with a very strong stand. The varieties were Marie Baumann, Jeanie Dickson, S. Marie Rodocanachi, Etienne Levet, Chas. Lefebvre, Marchioness of Londonderry, Auguste Rigotard, Ulrich Brunner, Margaret Dickson, Mrs. John Laing, Horace Vernet, Anna Olivier, Dupuy Jamain, Comtesse de Nadaillac, Prince Arthur, Mrs. W. J. Grant, Duchess of Albany, Clio, Victor Hugo, Helen Keller, A. K. Williams, Caroline Testout, Gustave Piganeau, and Mrs. Sharman Crawford. Mr. J. Gurney Fowler was a close second. Mr. R. E. West, Reigate, was third.

In the class for groups of plants in a space 12 feet by 9 feet, Mr. W. J. Densmore, gardener to T. F. Blackwell, Esq., secured first; Mr. W. Norman, gardener to Mrs. Charles, second; and Mr. E. Hawkins, gardener to J. W. Stuart, Esq., third. Messrs. Barr & Sons, King Street, Covent Garden, staged a handsome display of hardy flowers.

Messrs. Wm. Paul & Son, Waltham Cross, staged a very attractive exhibit of Roses.

Messrs. R. Wallace & Co., Colchester, presented an extensive display of Lilliums; Mr. J. Lion, Park Nursery, Stanmore, had a very good display of hardy flowers; and Messrs. W. Cutbush & Son, Highgate, had a bright exhibit of Sweet Peas, Carnations, and Pinks.



WEATHER IN LONDON.—We think most horticulturists would appreciate the weather during the past week, with its warm sun and pleasant breezes, for it cannot but be beneficial to vegetation. Rosarians will welcome it, for it will assist them very materially towards good flowers for the later shows. At the time of going to press on Wednesday it was dull but warm.

— ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Flower show of the Royal Horticultural Society will be held on Tuesday, July 12th, in the Drill Hall, James Street, Westminster, 1.5 P.M. On this occasion special prizes will be offered for Roses, and at 3 o'clock a lecture on "Edible Peas" will be given by Mr. N. N. Sherwood, V.M.H.

— SPIRÆA JAPONICA.—The latest plants of these are now over, though some may still be in bloom if the coolest possible treatment has been given them, or they are growing outdoors, this being an admirable way of securing a late supply of bloom. The most important thing now is to give plenty of water to the plants, whether retained in pots or planted out.—E.

— FLORA OF SIMLA.—The "Kew Bulletin" says, "Since his retirement from active service Colonel Sir Henry Collett has devoted much of his time to preparing at Kew a Flora of Simla and the adjacent district. Simla itself is situated at an elevation of about 7000 feet, and the area included gives a range of altitudes from 3000 feet in the valleys to 10,000 feet the summit of Huttoo, hence the vegetation is highly diversified. Including Ferns and a few other vascular cryptogams, the total number of species is estimated at about 1500. The work, which is well advanced, is to be illustrated by 200 figures in the text, all uniformly half natural size, reduced from drawings, by Miss M. Smith, of natural size. Sir Henry has presented the first portion of the original drawings to Kew."

— LEEDS SHOW.—From every point of view, excepting the financial one, the Leeds Flower Show was a success. The exhibits were worthy of the highest encomiums, and during the whole three days the weather was everything that could be desired, yet the Leeds citizens, by their lukewarm support, have again, it is to be feared, lost a fine opportunity to establish a yearly show worthy of the city. A meagre attendance, ending in the loss of about £150 to the Committee, was the result, after a plucky stand to avert defeat. The fact is the more to be deplored when we find the support given to smaller and less important suburban shows by Leeds people, who take it as a pleasure to run a considerable distance from home on those occasions, whilst they leave their own Show to its fate. In our report of the Show last week we omitted to mention a fine form of *Oncidium macranthum* Townsendi in the first prize collection of Orchids exhibited by Mr. Townsend, gardener to Beckett Fabers, Esq., Harrogate. In the first instance the plant was bought for 25s. Orchid fanciers present at the Show were much impressed by the decided colours and distinct markings of the flower, and the exhibitor refused a 40 guinea offer for the plant.

— A COUPLE OF ERRORS.—I always ask for the correction of a printer's error with great diffidence. Handwriting is in these days of hurry and high pressure often quaint, and sometimes illegible. I hope the printers are in such case philosophers, and bear the burthens thus placed upon their understanding with equanimity. Now I notice in last week's issue of the Journal I am made to say, in reference to the foliage of *Hedysarum multijugum*, that it resembled that of the "Dianthus." That comparison must have rather puzzled some readers. I wrote, or shall I say professed to write, "Clanthus," which explains my meaning. Then in reference to the American hand hoe or plough, I am made to refer to a circular "barrow." I meant to write "harrow." Perhaps everyone may not be familiar with those rotary implements. When a couple of, say, 3 feet diameter are fixed side by side in a framework which is pulled by a horse over a roughly harrowed surface of ground, the effect is, as these round harrows rotate, to create a fine surface, and to draw weeds well out of the soil. My idea was that a small one of from 15 to 18 inches in diameter, whirling round and round as drawn through rows of plants or trees, would clean soil rapidly and effectually.—A. D.

— WOLVERHAMPTON HORTICULTURAL CLUB.—The monthly meeting of this enterprising society was held on the 28th ult., when a fairly large attendance, with Mr. E. Simpson in the chair, listened to a lecture by Mr. W. Gardener, Harborne, Birmingham, on the genus "Pæony," which was illustrated by a beautiful assortment of cut blooms, kindly supplied by Messrs. Kelway & Sons, Langport, Somerset. A vote of thanks was accorded to the essayist for his information.

— JUNE WEATHER AT DRIFFIELD.—Mean temperature at 9 A.M. (corrected), 57.6°; wet bulb, 53.7°. Mean maximum, 63.36°; mean minimum, 47.03°. Highest, 73.5° on the 29th; lowest, 33.6° on the 1st. Mean of maxima and minima, 55.19°. Mean radiation temperature on the grass, 45.37°; lowest, 32° on the 1st. Rainfall, 2.44 inches. Number of rainy days, eleven. Greatest amount on one day, 0.61 inches on 21st.—W. E. LOVELL, *Observer, York Road, Driffield.*

— SUSSEX RAINFALL.—The total rainfall at Stonehurst, Ardingly, for the past month was 2.50 inches, being 0.70 inch above the average. The total for the six months is 10.80 inches, which is 1.36 inch short of the average. The heaviest fall was 0.66 inch on the 24th. Rain fell on thirteen days. The maximum temperature was 78° on the 19th, 22nd, and 29th, the minimum 41° on the 3rd. Mean maximum, 68.2°; mean minimum, 49.15°. Mean temperature, 58.67°; 1.10° below the average.—R. I.

— DUTCH HORTICULTURAL AND BOTANICAL SOCIETY.—FLORAL COMMITTEE.—At a meeting on June 8th the Floral Committee awarded first-class certificates to Messrs. E. H. Krelage & Son, of Haarlem, for *Acalypha Sanderi*; to Messrs. J. H. Kersten & Co., of Heemstede, for *Anemone coronaria* fl.-pl. White Lady; to Mr. J. H. Schober, of Putten, for *Epidendrum purpureum*; and to Mr. J. C. de Lange, of Rotterdam, for *Lilium rubellum*. Certificates of merit to Messrs. E. H. Krelage & Son, of Haarlem, for *Brodiaea Howelli* lilacina; and to Mr. H. D. Willink van Collen, of Breukelen, for *Lupinus nutkaensis*. Botanical certificates to Messrs. E. H. Krelage & Son, of Haarlem, for *Calochortus Maweanus* major, *Iris nigricans*, *Kniphofia Tucki*, and *Tulipa Sprengeri*; and to Mr. W. C. Baron van Boetzelaer, of Maartensdijk, for *Masdevallia rosea* and *M. Ephippium*. A gold medal to Messrs. E. H. Krelage & Son, of Haarlem, for a collection cut flowers from bulbous and tuberous plants.

— TRIPS TO THE CONTINENT.—Under the title of "Tourists' Guide to the Continent," and published by authority of the Great Eastern Railway Company, Mr. Percy Lindley has provided some sound information in an easily digested form. It is such knowledge as is here imparted that allows the traveller to enjoy a visit to the Continent, for notes on every phase of travelling, such as hotels, roads, places to see and how to reach them, are given. Mr. Lindley has edited many books of this character, but none has been more useful than this, which comprises upwards of 150 pages, and is profusely illustrated with photographic illustrations and maps. The price of the book is 6d. only, and it may be procured from the publishing office, 30, Fleet Street, London, or from the continental department, Great Eastern Railway, Liverpool Street Station.

— EMIGRANTS' INFORMATION.—The July circulars of the Emigrants' Information Office and the annual editions of the penny Handbooks show the present prospects of emigration. There is a good opening for experienced farm hands in Canada at this season of the year. There is no great demand for more labour at the present time in New South Wales; the total acreage under cultivation this year is considerably more than it was in 1897. In Victoria there is no general demand for more labour, but there are excellent openings for men who understand fruit growing. As regards Queensland, reports from Brisbane, Maryborough, Bundaberg, Mackay, and other parts show that there is a good demand for farm labourers in sugar districts during the crushing season, but it must be remembered that this only lasts from June to December. In Western Australia, Tasmania, and New Zealand the local supply of labour seems to be sufficient. For experienced farmers with capital, and for skilled mechanics with sufficient money to keep them for a time, and for domestic servants there are excellent openings in the latter colony. In Cape Colony the protracted droughts have at length broken up, and the scourge of rinderpest has been to a considerable extent held in check. Prospects therefore are generally improving, and marked progress has been made in developing the important industry of fruit growing. Speaking generally, however, there is at the present time no demand for anyone in the Colony except in some parts for thoroughly skilled mechanics; inexperienced hands will find great difficulty in getting work. In Natal there is very little demand for more mechanics, and coloured labour is almost exclusively employed on farms.



CYPRIPEDIUM PANSONI.

THIS new *Cypripedium* is a hybrid, resulting from a cross between *C. Rothschildianum* and *C. Morganiae*, and evidences of both parents are clearly perceptible. The flower is exceptionally handsome, and was greatly admired by orchidists at the Drill Hall on June 28th, when it was exhibited, and received a first-class certificate from the Orchid Committee of the R.H.S. From the woodcut (fig. 1, see page 5) it will be seen how decided are the markings, and how distinct the form is from any other. The broad semi-drooping petals have the ground colour of cream tinged with green, almost hidden by the large and very numerous spots of dark brown. The fine dorsal sepal is similar in basal colour to the petals, and has lines and rows of almost continuous blackish crimson spots. The pouch is rosy claret. The exhibitors of this Orchid were Messrs. Hugh Low & Co., Bush Hill Park, Enfield.

LÆLIO-CATTLEYA ADMIRAL DEWEY.

THE parentage of this bigeneric hybrid was given as *Cattleya Warneri formosa* and *Lælia elegans Mastersi* when it was sent to the Temple Show by Messrs. Charlesworth & Co., Heaton, Bradford. It was honoured by a first-class certificate by the Orchid specialists, and is portrayed at fig. 2. The formation of the flower is particularly good, as is the substance of all the parts of the flower. The prevailing colour is rich purplish rose, this extending over the sepals and petals; the broad lip is bright crimson. It is a charming flower, and was very much praised by experienced visitors and admired by all. It was a pity the gallant admiral after whom this Orchid is named could not be at the Temple Show to see it.

ORCHIDS AT RIVERDALE, MORPETH.

THE seat of Ed. Hopper, Esq., is always worthy of a visit. It is easy of access, not being more than 400 yards from Morpeth station, and no gardener going north should miss the opportunity of visiting this place. Both the owner and the head gardener, Mr. E. Jones, will accord a truly horticultural welcome, as both are enthusiasts in all pertaining to gardening.

Orchids are, however, the chief delight and pleasure. At the time of our visit on Easter Monday there were *Dendrobium Wardianum*, *nobile*, and *Cooksoni* in flower, with others for succession. *Cattleya Trianae* and *C. Trianae alba* were also in bloom, as well as the lovely *citrina* with its rich and most agreeably perfumed flowers. Within the last two years over 4000 plants of imported Orchids have been

bought, so that in the course of a short time the Riverdale collection will become a most important one.

In Northumberland and Durham twenty-five years ago Orchids were rare indeed. There were only three collections of note—Sir Wm. Hutt's, Gibside; Captain Perkin's, Birtley; and Mr. Newall's, Ferndean, Gateshead. But within the last few years the Orchid mania has largely developed, especially in Northumberland, where, at the present time, there are collections, such as Mr. Cookson's, which vie with any in the country. This is all the more gratifying, as the growth of these plants is now much better understood, while their beauty and long-lasting properties are such as always to recommend them to those who are devotees and worshippers of what is most beautiful in the vegetable



FIG. 2.—LÆLIO-CATTLEYA ADMIRAL DEWEY.

kingdom, and in Orchid culture and Orchid lore there are no more enthusiastic cultivators than Mr. Ed. Hopper and his talented chief gardener, Mr. E. Jones.—BERNARD COWAN.

THE VALUE OF LIGHT FOR TOMATOES.—Tomatoes are one of those crops which are never profitable without they are placed in a position where the growth can have constant and abundant light. With all other conditions favourable to the culture of the plants the ultimate crop produced is in proportion to the amount of sunshine they are in a position to receive, and to have the best effects it must reach them at as short a distance from the glass as possible.—PRACTICE.

DECORATIVE PINKS.

THE common or decorative Pinks bloom profusely at this season, and are largely employed to embellish shrubbery borders, where they succeed well. Good clumps of them add variety to the best herbaceous borders, helping to continue a succession of useful flowers, which, on account of their rich pure colours and sweet scent, are sought after for cutting and mixing with other interesting flowers, hardy or otherwise, blooming about the same time. But shortly the flowering season will be over, and an opportunity will then be afforded of increasing stock by the various methods of propagation most convenient to the cultivator.

Pinks are propagated by cuttings, pipings, and division of the plants towards autumn. The best cuttings are obtained from side growths. These are firm, comparatively slender, and better than the stronger looking "grass," which, however, will root also. The side shoots may be slipped off the plants, taking them about 3 inches in length. Trim the ends and remove the lower leaves. Insert them 2 inches apart in a bed of sandy soil in a cool position where the sun does not reach them strongly. Behind a north wall may be a suitable place if well drained and sheltered. If covered with frames or hand-glasses the cuttings will root more quickly.

A common and ready method of propagation is by pipings. Pipings are formed by sharply pulling the growths out of their sockets near a suitable node on the stem. Do this so that the pipings have three distinct joints. The base seldom needs trimming, but the leaves may be drawn together, and their tips cut off. The same may be done with cuttings. Pipings can be inserted in a similar manner as cuttings, but the best and surest way of inducing the formation of roots is to employ a slight hotbed, the whole covered with glass, kept moist and shaded. When rooted afford air, and gradually expose fully. Stocky plants will thus be secured for planting out permanently in autumn.

A readier method of increase adapted for cases where it is not convenient to propagate in summer is to wait until early autumn. Then, taking up an old clump of Pinks, divide it into small portions, each containing several growths. Cut away the old roots, and the old thick stems, leaving a convenient length of the more slender portion of stems below the leaves. Plant to the depth of the lower leaves, about 6 inches apart, in lines or beds, previously preparing the soil by digging and enriching. This method is almost equivalent to planting rooted cuttings or pipings. If carried out too early much labour will be involved in maintaining the growths fresh, hence the recommendation to defer it until the genial coolness and moisture of autumn predominate over the dry arid atmosphere of the summer months. The common white Pink seldom fails to establish itself in this manner, forming good plants which bloom the following year. The second year, however, they grow vigorously, and afterwards bloom profusely.—E. D. S.

THE HISTORY OF THE SOILS OF THE BRITISH ISLES.

(Continued from page 458, last vol.)

ALTHOUGH occurring in contiguous districts, the difference between the trias and oolite in the lithological and chemical character of the formations is very considerable, and the external aspect correspondingly various. Instead of the rolling rounded eminences presented by the new red, we have the bold ranges of limestone hills stretching from the Cotswolds in Gloucester to the wolds of Lincolnshire, flanked by the inferior oolite and upper lias, and supported by the middle lias, from which falls away and forms extensive vales the lower lias. The oolite thus gives its own peculiar feature to a considerable tract of country, and possesses a soil of a strongly calcareous nature, being derived directly from the limestone rock. Less than a century since, immense tracts of these poor limestone wolds remained waste and uncultivated, the soil being too thin to support paying crops without nitrogenous addition.

The introduction of artificial manures led to their gradual reclamation, and land which was first let at 3s. 6d. per acre gradually advanced in value until 30s. is the average rental. Lime being inimical to many shrubs, particularly Rhododendrons, Azaleas, and Heaths, these and other ornamental shrubs and plants can only be grown with difficulty in these limestone districts, and in peat soil brought from other formations; and even then the all-pervading lime sooner or later causes their destruction, the carbonate of lime which distinguishes the oolite being apparently more obnoxious than the sulphate which is peculiar to the new red marls. Although certain garden shrubs fail to thrive on the limestone, good timber is grown upon it, particularly Larch; and under high cultivation good average crops of corn are obtained.

The middle lias when exposed consists generally of flat-topped hills between the lower and upper clays. The ironstone, of which it

is chiefly composed, has produced a red ferruginous soil largely intermixed with fragments of broken stone. Forest trees as well as fruit thrive on this marlstone rock, showing that iron oxidised and mixed, even to the extent of 20 per cent., is not absolutely injurious to plant life, but rather affords an element of fertility; but the Oak has the power of absorbing iron sometimes to an extent that is injurious to the timber it produces, although other timber trees seem unaffected.

The lias, a division of the oolite, is one of the great clay formations of the country, named from the layers of limestone interstratified in its lower beds. Denudation has exposed its various beds, some of which are rich in fossils, which are found in numbers where they perished in the shallows of the ancient liassic sea. Accumulations of the fossil shells of gryphin and ammonites sometimes occur within reach of the roots of the corn or other cultivated plants; when in dry seasons the result is very bulky crops.

The whole formation consists of the muddy deposit of a sea abounding in marine life, the remains of the various fish, reptiles, and molluscs being largely intermixed with the clay. This makes it relatively rich amongst clays, although while it remains in its primitive and compact state it is like buried treasures; but freely worked and made porous by drainage and the admixture of burnt earth or lime, its arable lands are rendered fertile, and under ordinary conditions its meadows produce hay of good quality. Stilton cheese is made from its pastures; and timber, fruit trees, and vegetables can be successfully grown. The finest lime, equal in quality to cement, is made from the stone found within a few yards of the surface.

The wealden group associated with the oolitic system is an estuary formation receiving the silt and mud of some great river, together with the spoils of the land, or plants and animal remains, which are entombed with those of aquatic origin. Typically developed in Kent and Sussex, it is comparatively of small extent. Its shales, clays, and limestones give variety to its surface soils, each characteristic of the substances from which they are derived; like the lias, its clays owe their fertility to the presence of organic remains.—P. T. INGRAM.

(To be continued.)

METROPOLITAN NOTES.

(Continued from page 466, last vol.)

AMONGST fruit and vegetables the two notable objects observed during a visit to London a few weeks ago were Strawberries and Asparagus. Of the former good fruits were displayed at 3s. to 4s. 6d. per half-pound punnet, the fruits looking as tempting to the on-looker as the prices affixed would be to the growers, if they could secure them. Obviously, however, West-end shop prices do not quite correspond to market-growers' returns. The commercial horticulturist of the present day who can make money is he who can afford to have a shop in a good position and sell his own produce, but the risks are great even in this direction, and many content themselves with their salesmen's returns rather than take the responsibility of a retail trade. Amongst the Strawberries I observed a good proportion of La Grosse Sucrée and Vicomtesse Hericart de Thury, the former being still a valued variety for forcing, and more than one gardener in large establishments find they cannot dispense with it. The Vicomtesse, too, is a favourite with many for its flavour. A few examples were seen of James Veitch, but except that it is large and bright in colour it has little to recommend it for this work. Noble was also represented by large fruits, but somewhat "smudged" and dull-looking, such fruit being soon unsaleable, or reduced to much lower prices; I saw some, for instance, at 1s. 6d. per small punnet. The best looking and largest fruits I observed were of Royal Sovereign, which made up some excellent punnets at the top price. Useful as this is out of doors, it is being found serviceable under glass.

The huge French Asparagus seems still to find favour, for the shops were abundantly stocked with it, though its superiority to English "grass" can only be found in its greater size. A large proportion of that I saw looked as if it might be edible to the extent of a couple of inches from the apex, and the rest was decidedly "woody."

From the West-end streets to the parks is a course inevitable for a horticulturist on his travels, and from April onwards to late autumn there is always something worth seeing. No doubt the Londoners appreciate their parks; the thousands that flock there on fine days prove that, but it is the stranger who is most impressed with their extent and beauty. Just now, in all their freshness of verdant turf and budding leaves, they are admirable, and there is no public expenditure which gives more pleasing and healthful returns to the people themselves than the parks. Regent's Park and Victoria Park are as well managed as those in the West of London, but we turn our steps to Hyde Park naturally, because it usually presents a good example of what is most in favour at the time.

The bulbs were still attractive, at least as regards the Tulips, for the Hyacinths were decidedly past their best. But after all the chief attraction of the spring bulb displays are to be found in the Tulips and Daffodils. Hyacinths charm with their fragrance and soft colours, but they are essentially formal, and though this may also be urged against the Tulips, yet these are not so heavy looking; their bright colours and

distinct foliage also give them relief. In borders round shrubberies it is rather a mistake to have alternate plots of Hyacinths and Tulips, because the former are fading before the latter are fully out, and dead Hyacinth spikes in contrast with the Tulip flowers have a very objectionable appearance. The only way in which these bulbs can be seen to advantage is when massed in large beds, as they are between the carriage drive and Park Lane from the Marble Arch to Grosvenor Gate. Brilliant is the only term that will adequately describe the Tulips, and in a long experience I have never seen the beds more even and showy.

The most notable of the earlier Tulips were chiefly old favourites that are yet unsurpassed for bedding purposes. The richly coloured Keizers Kroon, for instance, was magnificent in several beds, the charming rose-and-white Joost Van Vondel was another, and the substantial handsome deep rose Proserpine was similarly notable. Ophir d'Or is an excellent dwarf bright yellow variety, one of the best of its class. Leonardo da Vinci is a telling colour, a rich orange red; Samson has a rather small flower, but very bright red; and Dussart is a rich scarlet, but later than the others, the yellow Tournesol being the only noteworthy double variety. Beds of mixed Tulips have a pleasing effect; one in which Proserpine and Keizers Kroon were mixed was a surprise, for I should not have expected these two varieties to look so well together. A mixture of Joost Van Vondel and Narcissus Horsefieldi was good, while another of mixed Tulips and *Doronicum plantagineum excelsum* was equally attractive.

Of other bulbs, *Narcissus Tazetta* Grand Monarque and *Chionodoxas* formed a capital bed, *Narcissus Campornelli* with *Scilla siberica* or *Chionodoxas* were equally suitable. Hyacinth Lord Derby (pale blue) and *Narcissus maximus* formed a pleasing combination; but another mixture in which Hyacinth Sir H. Barkly (dark blue) was employed with *Narcissus rugilobus* was not so satisfactory, the shade of blue seeming too dark for the best effect. The chief Hyacinths were King of the Blues, very handsome, the spikes large and the colour rich, one of the very best in the park; Charles Dickens, blue; Madame Van der Hoop, white; Robert Steiger, red; La Grandesse, white; Fabiola, pink; General Havelock, blue; Mont Blanc, white; and Lord Macaulay, pink, are all old favourites, and when fresh highly effective.

With the exception, perhaps, of Victoria Park, there is scarcely one of the London parks which shows so many improvements in recent years as that at Battersea. In many respects it is admirably situated, especially for dry seasons, and the proximity to the river with the moist air no doubt accounts to a great extent for the vigorous development of many trees and shrubs. It is an ideal park in every respect, and an inestimable boon to a populous district. There were several fine beds of bulbs, but two circles of *Narcissus maximus* surpassed any that I have seen this year; the flowers large, of the richest golden yellow, and as even as possible. Another bed of *Narcissus Emperor* was a near rival, the flowers excellent in size, shape, and colour. By far the most notable object in the park at the time of my visit was a large tree of the pure white double Cherry, labelled *Cerasus multiplex*, on the road from the pier to the lake. The tree is about 25 feet high, with a well developed head, and it was loaded with its large pendant flowers, which had a beautiful effect viewed from below. I have known this tree for some years, and many a time I have seen it flowering profusely, but never better I think than this season. Why the double Cherries are not more frequently planted in shrubberies it is difficult to understand, they rank amongst the best of our flowering trees.

If duties permit I may trouble the Editor with a few more notes of my journey another week, for there is much in my book that has not been dealt with in this letter.—A COUNTRYMAN.

BOYS' FLOWER GARDENS.—"Come over and see our boys' gardens" was the invitation that came to me from that enthusiastic gardener, the Superintendent of the Police Orphanage at Twickenham, for Saturday last. There was to be a great function on that day with a royal Duke and Duchess there. I accepted and went over, finding the boys' gardens in one corner of the grounds. There are forty-two of them, all oblong in form, having brick on edge edgings, and between them broad gravel walks lengthwise and narrower ones crosswise. They are in three lines. I was rather disappointed with these gardens, because they seemed to show so little of initiative on the part of the workers. Each plot was 10 feet by 18 feet, and the older lads who attend to them have charge for two years; then when these leave the school the gardens come to other lads, who again repeat the attention previously shown. Each garden has two or three standard *Rosé* trees, various and generally too tall, and large clumps of hardy flowers, some a yard over. Some smaller things, such as *Sedum acre*, Pinks, Sweet Williams, and common hardy plants, with a few annuals and tender plants, and with many far too much Golden Feather. Every garden was neatly kept; but that was in each case the chief feature. Generally they were a long way behind in interest, in cropping, and culture the boys' gardens found so widely distributed in the county of Surrey. Of course, the boys who go out from this Institution are well educated and trained in various ways, and then apprenticed; but if they find little use for gardening knowledge in after life, no doubt a taste for it follows them all the same. The gardens had been, previous to my seeing them, judged by some of the Managers. It would have been fairer to the lads to have asked some gardener to undertake the duty. Out in the kitchen gardens the crops were excellent; but these are under qualified gardeners.—WANDERER.



NATIONAL CHRYSANTHEMUM SOCIETY.

THE annual outing will take place on Monday, July 25th, 1898. The outing, which will this year take the form of a trip to Harwich by Great Eastern rail, a water trip from Harwich along the picturesque Orwell to Ipswich and back, returning from Harwich by rail in the evening. The general manager of the Great Eastern Railway Hotel, Liverpool Street, has entered into a contract to convey the company throughout the entire journey by rail and water, providing dinner and tea at the Great Eastern Railway Hotel, Harwich. The charge for the day, including rail, boat, dinner, and tea will be 10s. 6d. to members, and 11s. to non-members. A special train of saloon carriages, and one of the splendid saloon steam ships of the Great Eastern Railway Company will be placed at the service of the party, provided a guarantee can be given for 250 persons. The exclusive use of these modes of conveyance would greatly promote the comfort and convenience of the company.

As one or two of our affiliated societies are desirous of taking part in the trip, this preliminary circular is issued in the hope that by the participation in the trip of affiliated societies, and by members exerting themselves to dispose of tickets, the number stated above may be secured. Bona fide members of affiliated societies will be charged for the trip at the same rate as members at the N.C.S. It is certain that the catering will be most satisfactory, and should the weather prove unfavourable, the protection on the steam ship will be found ample. Should the required number of 250 not be obtained, the party will have to travel by ordinary trains and steam boats. A complete programme of the day's arrangements, together with menus for dinner and tea is in course of preparation, and a copy will be furnished to every person taking part in the trip.—RICHARD DEAN, *Ealing, London, W.*

[It will be difficult we suspect for chrysanthemists and others to spend a day affording equal pleasure from the outlay involved, and it is hoped the number desired will be forthcoming.]

CHRYSANTHEMUMS FROM SEED IN AUSTRALIA.

FOR the information of those who have not had the opportunity or taken the trouble to keep the seed of different varieties separate, it may be interesting to know the extraordinary variations in types and colours obtained from one variety.

Types Reversed with Seed from Incurveds.—Last year I obtained seed from a bed of incurved varieties that were growing near a bed of Japanese. I raised upwards of fifty plants which are now (May 17th) flowering, and, strange to say, not one could I class as Chinese incurved, although I have one or two very promising Japanese varieties from them.

Seed from G. W. Childs.—A number of seedlings saved from G. W. Childs, which is also flowering, do not resemble the parent in the type of petal, and yet they more or less give the same type of foliage. A few that are similar in colour have a gold reverse, the others are composed of various shades of rose, yellow, and white—one of the latter being of the purest white Japanese incurved.

Seed from E. Molyneux.—A large number of seedlings from E. Molyneux have given a variety of forms, a fair number being of a dwarf habit with extraordinary large foliage, but not one approaching the parent in colour, and any darks obtained were colours that faded before the flowers were half expanded. About one-fifth were yellows and about one-tenth dirty-looking whites, with the usual mixture of very pale pinks. A fair number of the petals incurved.

Seed from Lady T. Lawrence.—From Lady T. Lawrence they were principally white and primrose, one clear yellow, and several of pale pink colours, the foliage in most cases being very similar to the parent, some much dwarfer, and a few very tall.

I mention three as a guide that will apply to many other varieties of the same colour.

Dark Varieties Have a Tendency to give Lighter Shades.—My experience has convinced me that darks have a decided tendency to give lighter shades, although they may be fertilised with dark varieties, and that will probably account for so many dark varieties having a tendency to fade prematurely; and although all dark varieties will give a fair percentage of lights, I have not yet obtained one dark from seed saved from whites or yellows, and, further, there is not the same variations in the foliage from seed of the two latter colours.

CHRYSANTHEMUMS IN VICTORIA, SEASON 1898.

Chrysanthemums, on the whole, have been quite equal to any previous season. The best varieties, as noted in the *Journal of Horticulture*, also apply here to a great extent, but those having full centres naturally are most favoured by growers who depend solely upon the open ground for their blooms, such varieties as Viviani Morel and Col. W. B. Smith being very reliable, but such as Mons. Panckoucke, E. Molyneux, and Pride of Madford are seldom seen to advantage as exhibition blooms.—THOS. POCKETT.

[We are very much obliged to Mr. Pockett for his interesting notes. It will be observed that Chrysanthemums are in accord with the motto of

the great Colony—"Advance Australia." They are in advance of the Old Country in one respect—namely, in their "season of 1898" being over while ours has still to come.]

FLOWER BEDS IN SUMMER.

AFTER flower beds and borders are filled with plants, such as half-hardy annuals, Pelargoniums, Begonias, Lobelias, and other things, some attention is needed to induce free growth. It is essential that the soil be maintained moist without daily deluging with water. Give one thorough soaking, and when partially dry stir the surface of the soil. This will form a light, dry mulch, which will effectually prevent evaporation from the moistened soil below, and render watering unnecessary for several days.

Exception may be given in the case of very small plants which may not have established their root system, but these will not require heavy waterings. They will be best helped by frequent sprinklings and occasional stirring of the surface soil. An effectual moistening of the soil ought in all cases to be given before plants are inserted.

The practice adopted by over particular people of raking flower beds and borders very fine, and removing every stone, is not commendable. Better spend the time in keeping the surface loose, which will induce growth until the plants cover the soil by their extension of growth.

Pick off dead leaves and flowers. Pinch back rambling growths where found to be necessary. The growths of some plants may be pegged down near the soil; such as Verbenas, Petunias, Phlox Drummondii. Carnations will require supporting with thin stakes or light branches of Birch or Hazel.

Clear away dead Holly and Aucuba leaves, which at this season are shed from the bushes. Shoots of any shrubs or trees encroaching on or shading plants or borders ought to be carefully pruned back, avoiding, however, treating them on the hedge-cutting system. The general appearance of flower beds and borders is much enhanced by neatly clipping the turf edges and mowing the grass weekly.

The hardy herbaceous perennial border requires to be frequently attended to. Many plants need regulating and supporting, while those passing out of flower soon look shabby if dead blooms are not removed. Where it appears essential to water give a good soaking, and mulch the soil over the roots with leaf soil or short manure.—G.

ROYAL HORTICULTURAL SOCIETY.

JUNE 26TH.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair); Mr. Bennett-Poë, Rev. W. Wilks, Dr. Müller, Mr. Veitch, and Rev. G. Henslow, Hon. Sec.

Pyrethrum Flowers Arrested.—Mr. E. Ballard sent some flowers, "taken from healthy roots, full of bloom, but on which some of the flowers fade, owing to the shrivelling of the stalk some 2 or 3 inches below the flower. Last year whole roots were affected." It is difficult to pronounce without seeing the early stages, but the general opinion was that frost had checked the buds, and a fungus, possibly a myxomycete, followed. Buds of *Pyrethrum*, arrested in an early stage, appeared to be spoilt by frost and wet having got into them.

Beeches, Dying.—Mrs. A. C. Campbell Swinton of Berrywell, Dunse, Berwickshire, sent some bark, &c., showing much decay, taken from a very fine old Beech at Kimmerghame. It was described as having a cavity at a fork in which rain water lodged, but since the tree is only 19 yards from the bed of the river the suggestion that the roots have got into the cold river soil is with very little doubt correct. Beeches preferring dry soil by nature, the above would be a sufficiently probable cause. Mr. Wilks described a case where in a space of 150 by 20 yards every shrub and tree dies after a time. The destruction began with a hedge, then Scotch Firs, Oaks, Ashes, and lastly Beeches of about forty-five years of age perished. The cause appeared to be a bed of white sand into which the roots penetrated, thus starving the trees.

Black Currant Shoots Falling.—Mr. E. Ballard sent specimens from a large plantation, which break off at a slight touch or by the wind. Dr. W. G. Smith, who has examined them, reports upon them as follows:—"The Currant leaves bore a mildew, but other fungi were also present when I examined the material. The characteristic mode of attack pointed to a *Peronospora* species. I have raised good crops of one on fresh portions of the leaves, and am following up the clue. If it be really a species of this family it is new to Britain, although one (*Plasmopora ribicola*, *Schröter*) has been reported from U.S. America. I have observed the emission of motile swarm spores from the sporangia (so-called spores) of fresh material, and otherwise feel sure of the *Peronospora* nature of this fungus. As to remedy, I should recommend a spraying of Bordeaux mixture or allied copper mixture. To a Black Currant plantation this could be done by a knapsack sprayer. Probably one can be had from the Strawsen Company."

Cherry Leaves Diseased.—Specimens of the foliage was received from Mr. B. G. Berry, F.R.H.S., Scarbutts Manor, Broughton, Faversham, and submitted to Dr. W. G. Smith, who reports as follows:—"I cannot make up my mind whether the fungus on Cherry leaves you sent last week is *Cylindrosporium padi*, *Karst.*, or *Cladrosporium amygdalearum*, *Pass.* Both are given as causing spots on foliage similar to that sent. The

spores are different, but I get both forms (or something very like them) present. In any case the fungus is the cause of trouble. The disease is common in the United States, though I have no definite record of its occurrence here. It is not considered serious, and yields easily to spraying remedies. I am afraid at present the crop is too far advanced to allow of immediate treatment, but as soon as it is plucked Bordeaux mixture should be sprayed on the foliage. Next year the spraying should be continued as soon as the foliage is strong enough to allow it. The preparation of Bordeaux mixture and allied fungicides I have already described in the "Gardeners' Chronicle" last August. It should not be used towards the season of ripe fruit, as it stains the Cherries, but applied before and after is reliable."

Black Currant × Gooseberry.—Mr. W. Culverwell of Thorpe Perrow, Bedale, sent a fruiting spray of this curious hybrid, showing well the resemblance to the manner of fruiting in the Currant, though it was entirely without its scent. The fruit resembled small Gooseberries, but the leaves had no spines.

4-Merous Odontoglossum.—Mr. McBean sent a spray of *O. crispum*, in which all the four blossoms upon it had the two anterior petals adherent to the sepal between them, three points indicating the fusion. In addition to the above, the sepals fused with the petals were petaloid and the ovaries were aborted. In two flowers it was S_2 and in the other two S_3 that was petaloid.

Tuberous Growth on Vine.—Dr. Masters exhibited a specimen; similar ones are sometimes associated with a multiplication of buds. It is probably caused by a puncture of some insect, which sets up a subsequent growth by hypertrophy. It is occasionally seen on Maréchal Niel Roses.

ISLE OF WIGHT HORTICULTURAL ASSOCIATION.

THE above Association arranged a very pleasant outing on June 30th, the place of venue being Messrs. Sutton & Sons, Reading. A party of over fifty members, accompanied by Dr. Groves, the Chairman of the Association, and Mr. S. Heaton, F.R.H.S., the Hon. Sec., assembled at an early hour at Newport station, where a special train had been chartered to convey them to Cowes in time to catch the seven o'clock boat to Southampton.

After a pleasant journey by boat and rail they arrived at Reading station at 10.45, where they were met by a representative of the firm, and conducted to the establishment at the Market Place entrance. Here they were received by Mr. Martin Hope Sutton, Mr. Leonard Sutton, and Mr. Hubert Sutton. The whole of the visitors were then conducted over the extensive seed stores and offices, and were much interested and enlightened by the explanation of the methods employed in cleaning, sorting, testing, and packing the vegetable, flower, and farm seeds, for which the firm is noted. Especially interesting was the testing room, wherein was a series of heated closets or cupboards, resembling incubators, wherein the germinating power of every sample of seed is determined. Another feature noticed was the way in which the seeds were carefully dried, and hermetically sealed in tin boxes before being despatched to foreign climes. Men were then busy with a large order that was about to be despatched to India, the names of the contents being printed outside in Hindustani.

The members of the association were very much gratified by seeing the founder of the firm, Mr. Martin J. Sutton, who, notwithstanding his great age, had travelled a long way, and looked in during luncheon to speak a word of welcome to them.

Brakes were subsequently chartered and the party conveyed to the seed trial grounds, which were inspected closely. The next move was to the houses and grounds in another part of the town, where Gloxinias and the double and single tuberous Begonias were making a splendid display, and especially fine amongst the Gloxinias were Her Majesty, Azure Blue, Duchess of York, and Duke of York. These are of fine form and substance. The Begonias showed great improvement.

After a walk through the Abbey ruins and tea at the Abbey Hall the party left Reading impressed and delighted with what they had seen and the way they were treated both by the heads of the firm and the managers of the various departments.—C. ORCHARD, *Bembridge*.

The monthly meeting was held at Sandown on Saturday, July 2nd. In the absence of Dr. Groves the chair was taken by Mr. T. Gibbs, C.C. A large number of exhibits had been got together, including Canterbury Bells, Foxgloves, Pentstemons, and Stocks, from Mr. A. Plumbley, Aspenleigh, Sandown; Roses and Pompon Dahlias from Mr. J. Nicholas, Kintore, Sandown; a large basket of Comet Tomatoes from Mr. W. Gibson, Sandown; a dish of Polegate Tomatoes from Mr. W. Downer, Shanklin; a miscellaneous group of flowering and foliage plants from Mr. A. Cole, Broadlands, Sandown; and stove flowering and foliage plants and a stand of Roses from Mr. J. H. Perkin, Los Altos, Sandown. The above groups well merited the certificates awarded.

In the evening Mr. W. C. Moseley read a paper on "Meteorology in Relation to Gardening," which contained many useful hints on the structure, uses, and management of meteorological instruments, several of which were exhibited. A vote of thanks was accorded the lecturer and the exhibitors, on the motion of the Secretary (Mr. S. Heaton), seconded by the Rev. J. Bamford. Several new members were elected at the close, bringing the total number to 270.

ABUTILON VITIFOLIUM.

THIS very beautiful half-hardy shrub is well worthy of cultivation; perhaps if it were a little hardier we should see it more frequently in gardens. In the West of England it is said to attain to a height of 14 feet, and to a circumference of upwards of 30 feet. Very rarely are such examples seen out of doors, and it is only in favoured climates where such results could be expected. In most cases where it is found in gardens it is an inmate of the greenhouse, and very seldom can an adequate idea be then formed of the beauty of the shrub when fully developed. The flowers are large, of a delicate purplish or bluish mauve, not unlike the stately *Meconopsis Wallichii* in tint and form. They are produced in great abundance, and in contrast with the large dark green lobed leaves they have a fine appearance. A small spray is represented by the engraving, but the specimen had suffered somewhat in transit, so that it scarcely gives a fair idea as to the beauty of the plant.

GRAPES AT HILL GROVE, KIDDERMINSTER.

ON making a call recently at the gardens at Hill Grove, the home of W. Halton, Esq., I was astonished at the heavy crops of Grapes in the five fine vineries there. Mr. Poole's practice seems to be to crop his rods heavily, and before they become exhausted to start others from the bottom of the rafter, reaching the top in about three years, when the older ones are cut out. In some cases young rods are left on the old roots, while in others rods are started away from older Vines, pegged down to the inside borders, where they root, and are then severed from the parent.

Black Hamburgs are a splendid crop. In many cases on the last 6 feet of rod ripened last year are eight and nine bunches, many of them 2 lbs. in weight, good in shape, with berries swelling and colouring well. Gros Colman, Alicante, Lady Downe's, Madresfield Court, and Muscats are all in fine form, and carrying enormous crops, Mrs. Pince especially so. Neither wood nor foliage is particularly large, but both are good in colour and substance. Order, neatness, and method are apparent throughout, every leaf being allowed to develop without crushing its neighbour, while roots are everywhere abundant near the surface of the border.

During the past two or three years Cucumbers and Tomatoes have been grown in large quantities, and there are now heavy crops of fine fruit. In both cases the varieties chiefly relied on are seedlings raised on the place, which are satisfactory in every way. The kitchen garden, which is a very fine one, was in excellent order—in fact, success may be said to crown Mr. Poole's efforts in most things he takes in hand.—W. H. W.

PÆONIES AND IRISES AT LONG DITTON.

TRAVELLERS on the London and South-Western Railway who pass through Surbiton Station cannot fail to notice the gorgeous masses of bright colours to be seen in the nurseries of Messrs. Barr & Sons. This blaze of colouring is caused by the thousands of Pæonies now flowering. It was with the intention of becoming more closely acquainted with them that I journeyed to Long Ditton on a pouring wet morning—certainly not an ideal time to see and examine large herbaceous plants; but provided with a "sou'-wester" and mackintosh by Mr. William Barr, matters were soon comfortably arranged. The healthy appearance of the plants was very marked, and their arrangement still more striking. An outsider would not notice more than perhaps twenty varieties, whereas they must be counted by the hundred.

As might be expected, both the single and double forms are well represented. The pick of the former, at the time of my visit, were as follows, taking the varieties as they appeared in their different colours:—*Couronne d'Or*, a large creamy white; *Duke of Wellington*, creamy yellow with pure white guard petals; *Madame Dupont*, pure white, very full flower; *La Vestale*, one of the most striking whites; *La Tulipe*, large snow white, very full; *Lady Godiva*, white, tinted flesh colour; *Marie Lemoine*, good white, and *Snowball*, one of the best noted. In the blush tints, *Duchess of Sutherland*, a beautiful pink; *General Bedeau*, blush white; *Lady Somerset*, soft rose pink; and *Madame Breon*, silvery peach, were conspicuous.

Passing to the rose varieties, *Alexandre Dumas* must be noted for its free-flowering properties; *Dr. Boissudval*, rose, with a salmon pink centre; *Madame Furtado*, carmine, very distinct; *Sir Henry Irving*, a bright rose pink of good form; *Washington*, rose cerise, very sweet scented; *noblissima*, rose; *John Fraser*, cerise rose, very double, and *Sir Walter Scott*, bright rose, shaded pink, were all splendid. *Louis Van Houtte*, deep crimson; *Lord Salisbury*, rich crimson; *Marshal MacMahon*, rich carmine; and *superbissima*, a strong grower, deep carmine, were excellent.

The single varieties appear to be gaining in popularity, and there are enormous quarters planted at Ditton. As with the doubles the colours are massed, so that a selection of the most striking becomes an easy matter. The *Bride*, as its name denotes, is white; The *Moor* is rich maroon crimson, with very distinctive foliage; *Apollo*, deep rose; *Celestial*, bright rose; *Mazeppa*, deep rose; *Princess Teck*, rose; *Venus*, bright rose, shaded silvery white; *Victoria*, deep crimson; *Jenny*

Lind, blush pink; *Dorothy*, rosy carmine; and *Kaiser*, a bright rose, are all good.

Mr. Barr considers that more failures with Pæonies occur through planting at wrong periods than from any other single cause. The ideal time is during the month of September, as by planting then the roots establish themselves while the ground is still warm, with the result that the flowers develop the following spring; whereas in cases where planting is deferred till November, the roots do not move till the following spring. This means that the plant is engaged in forming roots instead of developing its flower buds. At Ditton the plants grow in a light sandy soil, which is heavily mulched with manure to retain the moisture.

Iris in all sections are largely in evidence, growing in all sorts of positions, and under varying conditions. Many of the sections have now finished flowering, but judging from the numberless flower spikes



FIG. 3.—ABUTILON VITIFOLIUM.

that remain, they must have been very striking and attractive. *I. siberica* and its numerous varieties were still very attractive, growing in the open quarters and beside the running stream. I was particularly impressed by the *Iris orientalis* and *o. gigantea*, forms that are seldom met with in gardens. The plants appeared quite happy in the open ground, growing from 4 to 5 feet high, with very handsome foliage, and large chaste flowers with white standards and yellow and white falls. These are plants that should appeal to those who have to produce a quantity of flowers for decorative purposes.

There were still a few notable forms of variegata in flower, such as *Edward Simmonds*, *Magnet*, *Robert Burns*, and *Prince of Orange*. In the *Aphylla* section *Madame Chereau* and *Mrs. Darwin* were still beautiful. The Japanese Irises were just bursting into flower, and it will be worth a visit any time during the month to see them.—J. B. R.

DAHLIAS.—All varieties of Dahlias that have commenced to make growth freely after planting out permanently demand attention in thinning-out and regulating shoots. Rub off all weak growths, confining the plants to three or four of the strongest and best placed. Each plant requires an upright stake to support the main stem, but the principal growths will afterwards want tying-out to strong supports.—GROWER.

HORTICULTURAL SHOWS.

RICHMOND.—JUNE 29TH.

THE Richmond Horticultural Society's summer show was held in the Old Deer Park on Wednesday, June 29th. The weather was fine, and the show was well patronised by visitors. Four large and roomy tents were requisitioned to accommodate the exhibits, which were fully up to the standard of former years, if we except the groups and specimen plants, which showed a considerable falling off. Vegetables and fruits were good.

In the competitive classes D. H. Scott, Esq. (gardener, Mr. R. Johnson), the Old Palace, Richmond, led the way for a group of tuberous Begonias. He was also first for a dozen of the same plants. The class for groups of miscellaneous plants was well contested, Mr. H. E. Fordham, Twickenham, taking premier place with a handsome exhibit. He was followed by Mr. William Vause, Leamington; and by Mr. John Russell, Richmond. The competition for the smaller group, open to gardeners and amateurs only, saw Mr. C. Want, gardener to Sir F. Wigan, Bart., Clare Lawn, East Sheen, in the front. Mr. Chas. Turner, Slough, was an easy first for twelve show and regal Pelargoniums; and Mr. W. Farr, gardener to Andrew Pears, Esq., Spring Grove, Isleworth, thoroughly deserved his first prize for Malmaison Carnations. Mr. W. Farr was likewise very successful with the specimen plants. His first prize of six exotic Ferns were noble plants. Mr. Want was second. Mr. W. Vause topped the list of competitors for six stove foliage plants, and was the only competitor for six stove and greenhouse flowering plants. He obtained the second award in this latter class. Mr. J. Allsop, gardener to W. Cunard, Esq., Orleans House, sent the best six Caladiums.

Roses were exceptionally good, and many prizes were won by Messrs. Paul & Son, Cheshunt; Frank Cant & Co., Colchester; B. R. Cant, Colchester; and Chas. Turner, Slough.

The chief feature among the vegetables were the excellent collections. The first prize for a collection grown from Sutton's seeds was won by Mr. C. J. Waite, gardener to Sir Patrick Talbot, Glenhurst, Esher. Mr. A. Basile, gardener to the Rev. Powell, Woburn Park, Weybridge, was second; and Mr. J. Gibson, gardener to E. H. Watts, Esq., Devonhurst, Chiswick, third. For the collection grown from Carter's seeds Mr. C. J. Waite was also first prize man, with Mr. J. Gibson as second.

The classes for fruit brought out some good Grapes. Mr. H. W. Blake, gardener to the Earl of Onslow, Clandon Park, Guildford; and Mr. T. Osman, Ottershaw Park Gardens, Chertsey, taking first prizes for black and white respectively. Mr. J. Gibson, won for Strawberries, and Mr. Allsop for Nectarines.

The non-competitive exhibits were numerous and attractive. Cut hardy flowers came from Messrs. R. Wallace & Co., Colchester; A. W. Young & Co., Stevenage; Barr & Sons; Amos Perry, Winchmore Hill; and Geo. Jackman & Sons, Woking. Messrs. Jas. Veitch & Sons, Ltd., Chelsea, had a fine group of pot Roses. Orchids were represented by groups from Messrs. B. S. Williams & Son, Upper Holloway; and Messrs. F. Sander & Co., St. Albans. Mr. John Russell sent some grand hardy ornamental trees and shrubs in pots; Messrs. Fromow & Sons, Chiswick, contributed Japanese Maples; Messrs. H. Cannell & Sons, Swanley, a fine group of Cannas in small pots. The large group of Malmaison Carnations staged by Messrs. W. Cutbush & Son, Highgate, was much admired. Messrs. J. Peed & Sons, Roupell Park Nurseries, Norwood, staged some capital Carnations.

A magnificent collection of fruit, including Peaches, Nectarines, Plums, and Cherries, came from Messrs. T. Rivers & Son, Sawbridge-worth. A group of well-cropped fruit trees in pots was put up by Mr. Jas. Hudson, gardener to Leopold de Rothschild, Esq., Gunnersbury House, Acton. The fruit was of excellent quality throughout.

On the grass outside the tents Mr. Duncan Tucker, of Tottenham, had temporarily erected a number of his glass houses. These are modern in design, of a high-class durable character, and are fitted with the handiest ventilating gear.

NATIONAL VIOLA—CRYSTAL PALACE, JULY 2ND.

THE annual exhibition of the National Viola Society was held on the above date. The competition was not so keen as in former years, as the northern growers did not show in such numbers, and the southern exhibitors made a poor display. No doubt the weather has much to answer for, but the interest appears to be flagging.

In the class for forty-eight sprays of Violas, distinct, Mr. Wm. Sydenham, Tamworth, was awarded the gold medal with a good exhibit. The best sprays were Sydney, Amy Barr, Magnificent, Pembroke, Avalanche, J. B. Riding, Duchess of Fife, Kitty Hay, William Tell, and Florizel. Messrs. I. House & Son, Bristol, were second with a weaker display.

Mr. Matthew Campbell, Blantyre, was the only exhibitor for forty-eight sprays of Pansies, distinct, with a very fine stand. The best varieties were Col. Buchanan, James Stewart, Mrs. W. Steele, M. A. Scott, D. Morrison, Mrs. R. Thompson, D. G. Mackay, Mrs. R. Stewart, The Baron, and Maggie Watson.

In the class for twenty-four sprays of Violas, distinct, Mr. M. Campbell was placed first with a good display. The most prominent varieties were Dorothy, A. J. Rowberry, Border Witch, Nellie, and Stobhill Gem. Messrs. J. Cheal & Sons, Crawley, were second with a fresh and even exhibit. For twelve sprays of rayless Violas, distinct, the first prize fell to Mr. D. B. Crane, Highgate, and the second to Messrs. I. House & Son.

For twenty-four varieties of Violas arranged in glasses Messrs. I.

House & Son were placed first. The best varieties were Norah May, Archie Grant, A. J. Rowberry, White Empress, Lady Reah, and Florizel. Mrs. C. C. Lowe, Ryhall, Stamford, was second. A better competition was brought out in the class for six vases of Violas arranged with any foliage, Mr. D. B. Crane securing first, Messrs. I. House & Son second, and Mrs. C. C. Lowe third prizes.

Mr. Wm. Sydenham, Tamworth, exhibited a table of baskets, vases, and other devices to display the decorative value of the Viola. The varieties principally employed were Pembroke, Devonshire Cream, Wm. Neil, Jas. B. Riding, and Rover. Mr. W. Baxter, Woking, exhibited sprays of his new Viola Endymion, a rich lemon yellow, now becoming well known. It is a capital variety for early flowering.

THE YOUNG GARDENERS' DOMAIN.

GENERAL OBSERVATIONS.

THE question is often asked, Is the pen mightier than the sword? Whether it is or not, mine has had to rest of late, but not so a pair of Grape scissors. For some time past many will have found very little spare time for writing. This must be my excuse for not responding earlier to the call of our friend, "An Old Boy," to keep the "Domain" going.

Every young gardener aspires to hold the position of head in some place. What I think must be to a young head one of the greatest difficulties in taking up such a position is making out his first seed order. He might be inclined to wonder whether to get an ounce of this or a packet of the next thing, and so on. There are many seeds little short of wasted by thick sowing, and this applies more to vegetable seeds than any. They may not be expensive, but still a few shillings might be saved, and some new thing obtained without the cost being grudged, if other kinds were reasonably dealt with. Would it be too much to ask our old mentor to give us some of his experiences with his first seed list and succeeding ones?

Early vegetables are equally as interesting as early Grapes, and are as highly valued when they come to the table by many families. Crops that stand in the open ground all winter, such as Cabbages, cannot be helped so much unless by selecting the most sheltered and warmest corner for them, and the varieties wisely selected. Lettuce can be materially helped. Plants kept in cold pits or frames during the winter need to be well looked after, or both cold and damp, especially the latter, very soon carry them off. Give them as much air as possible when the sun shines. At times there is not much encouragement, as regards weather, to plant them out in the middle of March, but I have two beds in my mind's eye now which had that treatment. There is a number of bell-glasses with a hole in the knob for air. These were placed over the forwardest plants when they were planted, and at the end of May nice hearts were ready for cutting. As the plants are cut the glasses are put over others, and thus a good succession of useful heads kept up. All the Year Round and American Blonde are the varieties grown.

Another thing these glasses were used for last year was for Strawberries in the open border. After the fruit was set pieces of glass were put under them, and the bell-glasses over the plants. It is surprising how quickly the fruit ripened. The colour was also splendid.

Cauliflowers also need to be well cared for during the winter. If they happen to be raised too early the plants have a tendency to get too large, and damping sets in. Some good may be done by lifting and replanting them. They take no harm from the shift, and it has the effect of checking growth for some time. If the winter happen to be mild it is a difficult matter to keep them from growing too much. Slugs are very fond of Cauliflower, but they are easily destroyed by a light dusting of fresh slaked lime. Very little kills the slugs, and does the plants no harm.

Early planted out Cauliflowers need protection if they are expected to crop early. A good plan is to stick pieces of Fir branches between the rows to break the wind, and on cold nights they carry a sheet of canvas clear of the plants, and thus no leaves get broken. Empty flower pots make efficient protectors on cold nights. Cold winds are as much to be guarded against as frost. Early London can still hold its place as a good early variety.

The above notes were written in pencil a day or two before "T. P.'s" congratulatory notes were published. It would seem that he has plenty to occupy a part of his spare time without writing. Many of us may never enjoy being "gold penmen," but when one feels that he can write something, he is conferring a boon upon himself, when he writes with care, whether he does anyone else any good or not, by committing his thoughts to paper, even if they are not printed.—S., JUNIOR.

HARDY FRUIT GARDEN.

WHERE circumstances permit, it is best to have a separate fruit garden, where not only the larger sorts of fruit, such as Apples and Pears, are to be cultivated, but also Plums, Currants, Gooseberries, Raspberries, and Strawberries. This obviates the necessity of overcrowding the vegetable garden, where, in my opinion, only wall trees and espaliers around the paths should be planted, with an occasional bed of Strawberries as a change of crop. If we expect to produce good fruit we must first have our trees in perfect health. To effect this the gardener will have to pay strict attention to every detail in their culture, and be most careful to keep the trees free from pests, which quickly destroy the present crop and ruin the future one.

Out of our large collection of hardy fruits we have none of more

importance than the Apple, both for dessert and culinary purposes. With a judicious selection of varieties we are able to supply the demand for the greater part of the year, with the aid of a good fruit room. Apples appear to like an adequately drained soft hazel loam with thorough drainage, containing a small quantity of sand. The choice of trees is a most important consideration, and if possible they should be purchased after a personal selection. Plant firmly and near to the surface. For the first year after planting they require but little more pruning than the shortening of long young branches to form the frame of the tree. Avoid overcrowding of the branches, so that all the wood may have the full benefit of air and light, which are prime essentials for the production of healthy, fruitful trees.

I believe that pyramid or bush trees, according to the natural habit of the varieties, are well adapted for Apples. Robust growing varieties may be planted from 15 to 20 feet apart. For less vigorous growers the distance may be reduced. During dry weather they will require an occasional watering, and a mulching of decayed manure will be found beneficial.

As a rule it is advisable not to employ much manure of any kind, beyond mulching, until the trees are in a good fruit-bearing state. When Apple trees are well established and in full bearing they take up a large amount of nutrition, and therefore gradually impoverish the soil. This, therefore, must be replenished if good and lasting results are expected.

With regard to artificial manures for the Apple, those containing a good proportion of phosphates and potash are the most valuable in promoting sound growth, also good-coloured well-flavoured fruit. Wood ashes are very beneficial for the Apple, and where the soil is of a light sandy nature they should be mixed with it for planting. During the fruit-bearing season an occasional top-dressing with the same product and superphosphate of lime may be given with advantage. If the soil is heavy wood ashes would tend to make it more tenacious.

The subject of canker has always been, and still is, a troublesome disease amongst Apple trees. Opinions differ as to its cause. According to my observations this epidemic may be brought on and intensified by gross feeding, over-luxuriant growth, and severe pruning. I have never seen any effectual remedy, and can therefore only suggest preventive measures. These are suitably prepared soil, the careful planting of clean healthy trees, encouraging active fibrous roots, and having the branches thinly disposed near the surface for producing sound, matured, fortified growths. Then may we hope to repel the obnoxious fungus that spreads through the tissues, causing unsightly sap-obstructive corrugations that ruin many trees.—J. F. D., Yorks.



HARDY FRUIT GARDEN.

Propagating Strawberries.—Every favourable opportunity ought now to be seized to layer the best plantlets, either in small pots or cubes of turf, or on mounds of soil between the rows. It is inadvisable to select runners, however strong and vigorous, from fruitless plants. The best runners may often be found on the outside limits of beds, where the traffic caused by gathering the fruit is not so great. Select those runners that have had a due share of light and air circulating about them. The plantlets formed on such possess every qualification for readily rooting, early showing root extension into the soil provided, whereas crowded runners are quite unfit for forming roots quickly, owing to the weakening effect of rank growth. The first-formed plantlet is usually considered the best, because it must possess the most inherent vigour, if developed under favourable conditions, but good reliable plants may be secured from second plantlets when a large stock is required.

Rooting in Pots.—For obtaining an early set of strong plants the system of pegging plantlets down on the surface of the soil in 3-inch pots has advantages. The chief is, that immediately rooting has fairly commenced, the pots can be removed to a more convenient position for attention. Fill the pots with loamy soil, mixed with a little decayed manure, pressing the material down firmly. It should be moist. Partly sink the pots in the ground to prevent their being toppled over in passing about them for the purpose of supplying water, which in dry weather will be required every day, frequently more than once. During a moist period there is very little trouble. Stones may be used to keep the runners in position until rooting is insured, when the runner wire can be detached and the pots removed to a good position on a bed of coal ashes, standing them close together for after convenience in watering.

Establishing on Turves.—Where it is practicable to obtain a good thickness of fresh turf this may be cut up into small squares or cubes, 2 or 3 inches in thickness. Place them grass side downwards, half burying them in the soil, which will assist in retaining moisture. Secure the plantlets by affixing a hooked peg to each for holding it in position. Keep moist, and young plants will soon be established. It is not advisable to remove the turves the same as pots until the ground is ready to receive

the plants, one operation then sufficing. If, however, removal is necessary, place the turves close together on a moist base of ashes or soil.

Rooting in the Beds.—If the runners are left undisturbed, young plants will be established in the soil of the beds, but more readily if loosened and a little fresh soil added. Clear away weeds and the larger proportion of superfluous runners, which crowd and choke both the permanent plants and the best plantlets. Retain only a limited number of the most promising, giving them every facility to root freely. In dry weather watering will assist them, but on this system of rooting they do not require nearly so much attention in the maintenance of moisture.

Summer Pruning Fruit Trees.—Summer pruning is very essential, in order to maintain fruit trees and bushes healthy and fruitful. The term summer pruning, however, is a wide one, and embraces methods in the treatment of trees and bushes which differ considerably.

Shortening-back Side and Foreright Shoots.—In the case of formally trained trees, such as cordons on walls and in the open, horizontally trained, on walls and espalier fences, pyramid and bush-shaped in the open, summer pruning consists in reducing the current year's shoots which have extended from the spurs. Apples, Pears, Cherries of the dessert varieties, Plums, Gooseberries, and Currants on walls all require the summer shoots shortening back to four or six leaves. Red and White Currants always require this treatment, whether grown on walls or not. Plums and Cherries are best if the trees are allowed free extension in the open, when this form of summer pruning is not admissible.

In addition to the shortening of summer shoots it is advisable at the same time to thin-out entirely some of the weaker if there are a number together, so that the remaining may have the advantage of more abundant light and air.

Thinning-out.—This form of summer pruning is frequently not sufficiently practised, with the result that growth is too crowded and fruitfulness prevented. Neglecting to give due attention to Peach, Nectarine, and Apricot trees causes the wood to remain unripe, whereas if the current year's shoots, upon which the succeeding year's crops depend, are allowed plenty of room to become hard and ripe, a fruitful state will be insured. Gooseberries and Black Currants, especially the former, are much improved by liberal thinning-out in summer in preference to severe winter pruning. The operation may be carried out when the crops have been gathered. Summer is the best time to thin-out crossing, interlacing, and crowded branches of Apples, Pears, and Plums.

FRUIT FORCING.

Melons.—*Second Crops.*—When old plants are in good health and free from red spider they will show fruit blossoms freely on the laterals, even when the fruit is swelling; but these will not set unless syringing ceases, which is not advisable until the present crop is advanced for ripening. The plan is then to cut away such growths as are useless, and concentrate the fresh growth on the young fruit. A little of the old soil may be removed, and lumpy loam supplied, with a fourth of decayed manure. Give a good soaking of tepid water, and follow at once with equally warm liquid manure. Maintain ample moisture, and sprinkle the paths with weak ammoniacal liquid manure once or twice a week at the afternoon damping. If the plants are exhausted with the first crop or attacked with red spider they would be best rooted out. In that case thoroughly cleanse the house or pit, and bring in fresh soil. After giving the bed a good watering fresh plants may be put out. Keep them close, moist, and shaded, and they will soon become established and show fruit, so as to afford a late supply; but the structures must have artificial heat, as Melons in late September are apt to suffer in quality should the weather prove moist and cold. They must when ripening have a dry atmosphere, a temperature of 65° to 75°, and a free circulation of air.

Plants Swelling their Crops.—Give supports to the fruits before they become heavy, letting the table slant so as not to hold wet, and place slates beneath the fruits of the plants in frames. Fertilise the flowers daily of successional plants until sufficient fruits are set of equal size on a plant, then remove all the flowers, and reduce the fruits to three or four on a plant according to its vigour. Shade only to prevent flagging. It is most needed on bright weather succeeding to a period of dull and moist. Melons exposed directly to the sun are benefited by a slight shade when ripening. Repot any young plants requiring it, and keep them sturdy by placing near the glass.

When the fruit is set and swelled to the size of a hen's egg, the laterals may be pinched to one leaf, and if this results in too much foliage, so that the leaves on the primary shoots are crowded or shaded by them, thinning must be resorted to, removing a little at a time in preference to a quantity at once, the latter giving a check unfavourable to the fruit swelling. The plants should be attended to at least once a week, and in the case of vigorous plants twice, for stopping and the removal of superfluous shoots, the principal leaves being fully exposed to light and air.

Water must be given before the foliage flags, always affording a thorough supply when the soil is becoming dry. Plants swelling their fruit will need water once a week, even those with a large extent of root space; others with lessened rooting areas require it twice a week, and plants in pots will need supplies once or twice a day. When setting and ripening it will suffice to keep the foliage from flagging, and if watering becomes necessary it should be given without wetting the surface more than can be helped. A poor growth is not good for either setting or ripening the fruit, but a drier condition of the soil is desirable at those times than when the fruit is swelling.

When the flowers are about expanding and the crop ripening withhold water from the foliage, for it converts pollen into paste, and causes fruit

to crack. At the times indicated moisture must not be entirely withheld from the atmosphere, but damp the paths in the morning and afternoon. With the fruit swelling syringe well at closing time, and damp liberally in the morning and evening. Sprinkle plants in frames, or syringe at closing time, being careful to keep the water from the collar of the plants.

As the fruit approaches ripening admit a little air constantly, so as to prevent the deposition of moisture on the fruit, also when the flowers are setting, for when damp settles on the delicate organs of fructification they are destroyed. Provide a little ventilation in frames at night, and increase it early in the morning of fine days at 75°, and gradually admit more air, keeping through the day at 80° to 90°, closing at 85° so as to raise the heat to 90° or more, and before night admit a chink of air at the top of the house or back of the frame.

The temperature in both houses and frames will now be maintained without recourse to much artificial warmth. It will suffice if the night temperature does not fall below 65°, and is maintained at 70° to 75° by day. In a dull period a little fire heat will be desirable to maintain a buoyant condition of the atmosphere when the fruit is setting and when ripening. At those times plants in frames will be much benefited by linings placed against the sides, and, if necessary, to the beds, as it allows of a free circulation of air, and otherwise the temperature is ruled by the external influences.

Strawberries in Pots.—Early runners for layering in pots should be on fruitful plants and the work proceeded with as soon as they are formed at the joints of the wires and when pushing roots. The runners may be layered in small pots, turves, or into the fruiting pots. All three plans are good. In any case it is essential that the first runners, which give the best plantlets, should be selected, and that they be induced by judicious watering to emit roots freely, develop into sturdy plants, and form good crowns. Plants layered in small pots or turves should be detached when well rooted and shifted into the fruiting pots. These may be 5-inch for very early forcing, 6-inch for succession and late work. Turfy loam, strong rather than light, should form the staple of the compost. Pot firmly, and stand the pots on a hard base in an open situation, keeping the plants properly supplied with water, free from runners and weeds. La Grosse Sucrée, Royal Sovereign, Lucas, and British Queen are excellent sorts in their order for early forcing, midseason and late, being good croppers and of first-class quality.

THE BEE-KEEPER.

HONEY PROSPECTS.

We are now in the midst of the honey flow from field Beans, the White Clover, and various other flowers, and the next three weeks will decide whether bee-keepers will be rewarded with a bountiful harvest, or if the honey crop will be a failure, or partially so. After the experience of the past fortnight—bright sunshine has been absent—he would be a bold man who would predict an extra large surplus from the above sources.

It is during a season like the present that good management will make itself shown. This is observed in bee-keeping more than anything else, and if the hints given in these pages week by week have been duly attended to there is still ample time for the bees to store a surplus. It is surprising the amount of honey a strong colony of bees will store in a few hours, and the rapid increase in the weight of the stocks that takes place after only a few hours bright sunshine during the height of the season.

REARING QUEENS.

If we utilise all our stocks for honey production, and do not allow them to swarm, they must eventually collapse, as the queens will die of old age, or from exhaustion. The bees will then endeavour to rear another in her place, when it may be too late, owing to the fact of there being no eggs in the hive. Or if there are, and a queen is in due course raised, there will be a greater loss of time—probably a month will elapse from the laying of the egg until the young queen is fertilised and laying. During that period the bees in the hive will gradually become fewer owing to old age and other causes, so that by the time the young queen has filled the hive with brood it will be too late for the bees to be of any use for that season. Bees, too, when prevented from swarming, which is their natural instinct, usually lose their queen during the spring when her laying powers are overtaxed, and valuable time is thus lost.

Those of our readers who carried out our instructions a month ago, and doubled a given number of their stocks for the production of extracted honey, will now have numerous stocks which were then robbed of frames of brood and young bees, which since that time have had an addition as they required them of frames of foundation or fully drawn-out combs. There will now be numerous young bees on the wing, and the combs will be filled with brood in various stages of development. These, then, are in prime condition for queen rearing.—AN ENGLISH BEE-KEEPER.

TO CORRESPONDENTS

All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," **S. Rose Hill Road, Wandsworth, S.W.**, and **NOT** to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Improving the Colour of Flowers (Amateur).—Most fertilisers improve the colour by giving stamina to the plants. Some dressing has probably been given to the plants before you procured them, hence the less colour and smaller flowers usually found on them after they leave the grower. We should use a little fertiliser, one of those advertised, carefully following the instructions. None of the plants you name will thrive and flourish in a greenhouse with only sun heat, or only during the summer months, say from June to September inclusive. This means their being grown elsewhere, and only placed in the greenhouse at the time mentioned for decoration.

To Preserve Strawberries Whole (G. H.).—To 6 lbs. of Strawberries allow 3 lbs. of sugar, granulated. It is largely a question of variety, as some invariably smash. However, if you use fruits of Grove End Scarlet, or small ones of Vicomtesse Hericart de Thury, following the instructions here given, you should attain to what you desire. Lay the fruit in deep dishes and sprinkle half the sugar over them, give a gentle shake so that the sugar touches the under side of the fruit. The next day make a syrup with the remainder of the sugar and the juice drawn from the Strawberries, and boil until it jellies; then carefully put in the Strawberries and let them simmer nearly an hour. Place with care into jars or bottles, and fill up with the syrup.

Carnations Infested by Maggot (T. L.).—The "black dog" or "leather jacket" is the maggot or larvæ of the daddy-longlegs or crane fly (*Tipula oleracea*), and very destructive. The pests are troublesome, and the best means of destroying the grubs is by hand. They may be found just within the soil near the food plants, and can mostly be unearthed with a pointed stick. This is a troublesome process, but sure; afterwards dressing the ground between the plants with finely powdered nitrate of soda, using an ounce per square yard, near but not on the plants. Or dissolve the nitrate in water, half an ounce to a gallon, and supply that quantity per square yard, but soil close up to the stems. This will benefit the plants and stupefy the grubs, killing them slowly. Another plan is the old-fashioned hot-water treatment, this being supplied at a temperature of 110° to 115°, and sufficient given to wet the soil about 2 inches deep. It is best to use warm water for the nitrate of soda, applying at a temperature of 110°, and not exceeding the quantity of nitrate per square yard, when the ground is moist.

Lord Napier Nectarine Leaves Yellow (L. N. P.).—There does not appear to be any disease of an organic nature in the leaves, they being deficient only in chlorophyll. It is not a case of "yellows" due to micro-organisms, but a constitutional or structural defect, commonly called *chlorosis*. This may be, and not unfrequently is, followed by brown rot fungus (*Monilia frutigena*), a common cause of the so-called gumming and dying-off of the shoots and limbs. There was no trace of it, however, in the two-year-old wood, but may have a seat lower down in the branches. We should lift the tree, not necessarily to supply fresh soil, as that was done three years ago, but to promote a fibrous root formation and better means of imbibing nutrition. Supply a dressing of three parts bone superphosphate, dry and crumbly, two parts double sulphate of potash and magnesia, and one part sulphate of lime, mixed, using 4 ozs. per square yard, pointing in very lightly, or loosen the surface, scatter on, and wash in moderately. This will give some relief in the present season, and more in the next, especially if a similar dressing be given after lifting. The first application will not interfere with this operation, but, as before stated, we should not remove the old soil, but return it again after operating.

Heating a Small Greenhouse (H. M.).—The apparatus to which you allude, in the size 32 by 30 by 10, would heat a greenhouse of the size you mention sufficiently to exclude frost, and also serve for Tomato growing; but the next size would be better, so as to make allowance for any unusually severe weather. You are no doubt aware that the appliance is a hot-air one, hence the heat will be less, perhaps, beneficial than that given off by hot water. We should prefer a small boiler, with a flow and return 4-inch pipe along the front of the house.

Poplars not Thriving (J. T. W., Deal).—We suppose the Poplars are Lombardy, as you allude to their being selected to save trimming. As they do well on one side of the road and not on the other, there may be something wrong with the soil, and no trees would thrive unless the defects were remedied. Perhaps the Cornish Elm (*Ulmus campestris* var. *cornubiense*) would succeed; it thrives well in exposed places, and has a decidedly very distinct and ornamental appearance. Little or no pruning is required to keep the branches in bounds, the spread being small in proportion to the tree's height, and the roots get a good hold of the soil whilst not ramifying to a great extent near the surface. It could be planted between the Poplars as you suggest and these removed in due course.

Crimson Rambler Rose (Idem).—Though this Rose prefers an open situation, we have seen fine plants against walls when established in good soil and well attended to in watering, the old growths being cut away after flowering and strong ones secured in their place. With more liberal treatment, such as feeding with liquid manure and mulching with short manure, you ought to secure plenty of flowers. We have recently admired a plant against the south wall of a building wreathed with flowers, as produced by growths of last year from 15 feet to 20 feet in length. This season's sucker growths are already more than 10 feet long, and as thick probably as your third finger.

Tomatoes Diseased (Subscriber).—The parts submitted are not infested by the Potato fungus (*Phytophthora infestans*), but by sleepy disease (*Fusarium lycopersici*) and yellows or chlorosis. There is practically no remedy for diseased plants, but it may usually be prevented by a dressing of lime in admixture with the soil some time in advance of using for the plants, or applying to the soil in the case of borders, and working into it in the usual way. For present use to the plants, if you decide upon keeping them, employ a mixture of five parts bone superphosphate, three parts double sulphate of potash and magnesia, and eight parts air-slaked best chalk lime, mixed, using half a pound of the mixture per square yard, pointing in lightly. If in pots, apply to the plants in the same proportion, mixing with a little earth so as to form a top-dressing. No application to the tops will have any effect, as the parasite is wholly endophytic in its mode of life, and seldom produces any outgrowths until the parts affected decay.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (J. H. N.)—1, *Pyrus aria* var.; 2, *Euonymus europæus*; 3, *Lonicera flavescens*; 4, *Senecio Doronicum*; 5, White Valerian; 6, possibly *Gypsophila paniculata*. (W. B.)—1, *Weigela rosea*; 2, *Rhododendron ferrugineum*; 3, *Jasminum fruticans*; 4, *Deutzia crenata*; 5, *Cotoneaster frigida*. (P. P.)—A good form of *Cattleya Mossiæ*. (T. N.)—1, *Asphodelus ramosus*; 2, *Campanula glomerata*; 3, *Polemonium Richardsoni*. (H. S.)—1, *Alströmmeria aurantiaca*; 2, probably *Hemerocallis fulva*; 3, *Aquilegia chrysantha*. (J. P., Liverpool.)—*Anthericum liliago*. (W. S.)—The Rose could only be named by comparison in a large collection. The other specimen is *Hedysarum multijugum*.

COMING OF AGE FESTIVITIES AT STOURBRIDGE.—The coming of age of Mr. E. Stanley Webb, eldest son of Mr. Edward Webb, was celebrated on Saturday, June 25th, Mr. and Mrs. Webb having invited the staff of Messrs. Webb & Sons to their residence at Studley Court, Stourbridge. There were about 400 present, including the staffs from Wordsley and Kinver, also the managers from the chemical works at Chester. Fine weather prevailed, and the visitors were enabled to spend a very pleasant time. Games were provided for their amusement, including bowls, tennis, cricket, and quoits, whilst many availed themselves of boating on the lake. The house and grounds were both open, and in the early part of the proceedings afternoon tea was served, after which the whole party was photographed on the terrace. The band of the 2nd Battalion Bedfordshire Regiment gave great pleasure. Dinner was served in a large marquee, after which Mr. W. W. Wyld, on behalf of the staff, presented Mr. Stanley Webb with an illuminated address, together with several handsome articles, and testified to his popularity with the staff. Mr. Stanley Webb, in responding, said he could not sufficiently thank them for the kindly feeling towards him as expressed in the address, and he also acknowledged his indebtedness to them for the assistance they had given him since his connection with the business. "Success to the Firm" was proposed by Mr. J. W. Berrington, and responded to by Col. Webb. Mr. T. R. Marshall proposed the health of Mr. and Mrs. Edward Webb.

TRADE CATALOGUE RECEIVED.

G. Bunyard & Co., Maidstone.—*Strawberries.*

COVENT GARDEN MARKET.—JULY 6TH.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve ...	0 0	to 0 0	Grapes, lb. ...	1 6	to 3 0
Cobs ...	0 0	0 0	Lemons, case ...	11 0	14 0
Filberts, 100 lbs. ...	0 0	0 0	St. Michael's Pines, each	2 6	5 0
Gooseberries, $\frac{1}{2}$ sieve ...	1 6	2 0	Strawberries ...	1 6	3 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0 0	to 0 0	Mustard and Cress, punnet	0 2	to 0 4
Beans, $\frac{1}{2}$ sieve ...	0 0	0 0	Onions, bushel ...	3 6	4 0
Beet, Red, doz. ...	1 0	0 0	Parsley, doz. bnchs. ...	2 0	3 0
Carrots, bunch ...	0 3	0 4	Parsnips, doz. ...	1 0	0 0
Cauliflowers, doz. ...	2 0	3 0	Potatoes, cwt. ...	2 0	4 0
Celery, bundle ...	1 0	0 0	Salsafy, bundle ...	1 0	0 0
Coleworts, doz. bnchs. ...	2 0	4 0	Scorzonera, bundle ...	1 6	0 0
Cucumbers ...	0 4	0 8	Seakale, basket ...	1 6	1 0
Endive, doz. ...	1 3	1 6	Shallots, lb. ...	0 3	0 0
Herbs, bunch ...	0 3	0 0	Spinach, pad ...	0 0	0 0
Leeks, bunch ...	0 2	0 0	Sprouts, $\frac{1}{2}$ sieve ...	1 6	1 9
Lettuce, doz. ...	1 3	0 0	Tomatoes, lb. ...	0 4	0 9
Mushrooms, lb. ...	0 6	8	Turnips, bunch ...	0 3	0 4

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6 0	to 36 0	Heliotrope, doz. ...	5 0	to 6 0
Aspidistra, doz. ...	18 0	36 0	Hydrangea, doz. ...	8 0	10 0
Aspidistra, specimen ...	5 0	10 6	Lilium Harrisii, doz. ...	12 0	18 0
Calceolaria, doz. ...	6 0	8 0	Lobelia, doz. ...	3 0	4 0
Coleus, doz. ...	4 0	6 0	Lycopodiums, doz. ...	3 0	4 0
Dracæna, var., doz. ...	12 0	30 0	Marguerite Daisy, doz. ...	6 0	9 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	4 0	6 0
Erica various, doz. ...	12 0	24 0	Musk, doz. ...	2 0	6 0
Euonymus, var., doz. ...	6 0	18 0	Myrtles, doz. ...	6 0	9 0
Evergreens, var., doz. ...	4 0	18 0	Palms, in var., each ...	1 0	15 0
Ferns, var., doz. ...	4 0	18 0	„ specimens ...	21 0	63 0
„ small, 100 ...	4 0	8 0	Pelargoniums, scarlet, doz. ...	4 0	6 0
Ficus elastica, each ...	1 0	7 0	„ „ „ ...	8 0	12 0
Foliage plants, var., each ...	1 0	5 0	Rhodanthé, doz. ...	4 0	6 0
Fuchsia ...	5 0	8 0			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blooms ...	3 0	to 4 0	Mignonette, doz. bnchs. ...	2 0	to 4 0
Asparagus, Fern, bunch ...	2 0	4 0	Myosotis, doz. bnchs. ...	1 0	2 0
Bouvardias, bunch ...	0 6	0 9	Orchids, var., doz. blooms	1 6	9 0
Carnations, 12 blooms ...	1 0	3 0	Pelargoniums, doz. bnchs. ...	4 0	6 0
Eucharis, doz. ...	3 0	4 0	Polyanthus, doz. bnchs. ...	1 0	1 6
Gardenias, doz. ...	1 0	3 0	Pyrethrum, doz. bnchs. ...	1 0	1 3
Geranium, scarlet, doz. bnchs. ...	0 0	6 0	Roses (indoor), doz. ...	0 6	1 6
Iris, doz. bnchs. ...	4 0	6 0	„ Red, doz. ...	0 6	1 0
Lilac (French), bunch ...	3 6	4 0	„ Tea, white, doz. ...	1 0	2 0
Lilium longiflorum, 12 blms	3 0	4 0	„ Yellow, doz. (Perles)	1 0	2 0
Lily of the Valley, 12 sprays	1 6	2 0	„ Safrano (English) doz.	1 0	2 0
Maidenhair Fern, doz. bnchs. ...	4 0	8 0	„ Pink, doz. ...	1 6	3 0
Marguerites, doz. bnchs. ...	1 6	2 6	„ Moss, per bunch ...	0 9	1 0
			Smilax, bunch ...	2 0	3 0
			Sweet Peas, doz. bnchs. ...	1 6	3 0



COW-KEEPING ON A SMALL OR LARGE SCALE.

THAT there is profit in the keeping of milch kine is generally understood and acknowledged, but that in this pursuit as well as in others due intelligence and industry must be used must also be taken as a *sine quâ non*, or the balance may soon be found on the wrong side of the sheet.

There is a very prevalent idea amongst farm labourers that the possession of a cow means the commencement of a new era of prosperity, and as the few successful farmers who have made their way from small beginnings have, as a rule, commenced with keeping a cow whilst still continuing to work as labourers, the men have some reason for thinking that a cow is a kind of "*El Dorado*," or gold mine. But that cow-keeping or dairying, call it which you will, is under all circumstances and to any extent a very profitable business we must demur to.

The chief profit in cow-keeping on a small scale by the agricultural labourer arises from the facts—and they are very important ones—that no account is taken of and nothing is charged for labour; that a regular market for the dairy produce is found at home in the owner's house and in the pigsty, and that, very often, the food for the animal is provided in a way and at a cost that would be impossible on a large scale.

It is very creditable to farmers when they allow and encourage their men to keep cows, especially if, as often happens, the men get material help as well as sympathy. We know of parishes where there are what are called cow cottages—i.e., cottages to the tenancy of each of which is attached the right to a free run for one cow in a common pasture or in the parish lanes, and also a portion of the produce of a meadow reserved by the owner for the general benefit.

In one case that we know of the tenants of the farms are required by their landlord to cart the hay for the cottage tenants. As in this case the cottage rents, with all this thrown in, are very little higher than rents in other places, it is not very surprising to find that cow-keeping under such favourable conditions is looked upon as profitable. If a ready and steady sale can be found for new milk at anything over 8d. per gallon, we think that cow-keeping will pay on a large as well as a small scale; that there is much profit in the making of butter we do not believe.

But people assure us that we are quite mistaken, that only enterprise and co-operation are needed (which means a butter factory) and all is *couleur de rose* (Maréchal Niel, no doubt!!!). Now, some little time ago a leading light of the dairy world who lives not too far from us was thinking seriously of building a butter factory, and after carefully weighing up all the pros and cons, made inquiries as to the price at which he could purchase new milk in the neighbourhood; we, amongst others, were asked, and suggested 7½d. per gallon. "Oh!" he said, "I could not give 6d." This was a man who practically knows all there is to know about dairying, both British and foreign. At any rate, he knew better than to build a butter factory; but, finding a good outlet for new milk, he sells 100 gallons of milk per day, and buys Danish butter for home consumption.

A few days ago we read with something akin to amazement (perhaps the right word had the letter u in it) a treatise on small cow-keeping from the pen of an eminent and learned authority, in which by a skilful use of assumptions and figures it is apparently proved that a cow giving 550 gallons of milk per annum can be kept for twelve months in good going order for £7 15s.; £3 15s. of this represents rent and rates, the other £4 has to cover the cost of extra food, insurance, risks, labour, and all incidental expenses, such as would be included in the growth of half an acre of roots and Tares, and the making and carting of an acre of hay. We notice that proving such a feat as this to be possible the author begins almost every one of his paragraphs with an IF. He does not say that such a thing has been done, but that it might be done if everything were to be ultra favourable, and there were no mishaps or failures of any kind.

For one thing, it is putting the cost of new milk too low for any reasonable person to believe in; 550 gallons for £7 15s. is about 3½d. per gallon. If it were possible to produce milk at such a price, can we believe that, notwithstanding all the obstacles that railway rates can put in the way, there would not be sufficient milk sent into the large towns to reduce the price far below its present level?

We have carefully considered the cost of a cow, allowing for attention, food, and renewals, and we cannot make it come lower than £13 per annum, and probably this is not enough.

The renewal item may be a large one. Newly calved cows are often dear to buy, and if they should unfortunately afterwards be found difficult to breed from, and have to be sold off barren, they must either leave a considerable deficit to be deducted from their produce, or they must add greatly to the food bill whilst making themselves more saleable as beef.

To go back to the labourer with his one cow. The wife, if she be worth calling by the name, will do most of the work of feeding

and milking, fetching up, turning out in summer, and watering. This work if done for an employer would be considered to be badly paid for at less than 3s. per week. Well! there is £7 16s. earned by the wife—i.e., if the cow's produce is sufficient to pay for such a cost, and it is in this that we can see the chief profit from a cow to a cottager. But it is not really so much the profit from the cow, as the opportunity given to the woman of the house of spending her spare time profitably, instead of wasting it in idleness or gossip.

If the cows be multiplied indefinitely, however, and dairy farming be set up on a large scale, there cannot be more than a reasonable working profit, or every farmer in England would soon join in the industry. For instance, if—No! a big IF—a labourer can keep a cow for £10 per annum, can a farmer keep 100 cows for £1000? We trow not. Will any of our agricultural friends keep cows for us at that price, making good all losses, as well as finding food and attention?

WORK ON THE HOME FARM.

We have had some splendid rains during the last week, quite enough for present wants, and we are now rejoicing in brilliant sunshine and a rising barometer. Everywhere can be heard the rattle of the grass mower, and we have not yet seen a scythe swinging this season. Few English labourers can use one, and very few care to do so.

Clover and grass might grow a little more, but if a dry spell set in the growth will soon change to seeding and ripening, so we had better make hay whilst the sun shines, and not risk a very decent crop for the sake of a little more bulk of doubtful value.

The last Turnips must be sown at once. The Turnip may be sown successfully on warm soils as late as July 12th, but as a rule every day that we encroach on that month means a little deduction from the certain prospect of a crop.

The increasing presence of Foalsfoot has compelled us to have recourse to a bare fallow in one field. It is a peaty surface soil, but there is plenty of strong clay just below. We are not using the drag or harrow at all, simply ploughing at three-week intervals, going about half an inch deeper each time. We plough with chilled ploughs, but take care not to take too wide a furrow.

Two blazing hot days have brought the Wheat into full bloom; there is abundance of straw, and a continuance of sunshine is all that is required to bring us a really fine crop. Every week the Wheat crop stands out more prominently as the cereal crop of the year.

Second early Potatoes are doing well. Some Elephants have been seen to-day as large as hen's eggs. This is very good for the last day of June, and not in an early district.

Grass pastures keep very good, but seeds have gone off; still there is plenty of keeping. We have singled the Mangold; they are doing well now, but have not made the progress that they might have done. Frosty nights and cold winds do not suit young Mangold.

It will soon be time to wean the lambs. There is little to be gained by keeping them with the dams too long. We have noticed that hand-reared lambs rarely fall victims to scour and similar disorders, and have come to the conclusion that it is best to have lambs well weaned and settled down to finding their own living before the difficult month of August comes in.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.	9 A.M.					IN THE DAY.				Rain.
1898. June and July.	Barometer at 32° and Sea Level	Hygrometer		Direc- tion of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Tempera- ture.		
		Dry.	Wet.			Max.	Min.	In Sun	On Grass	
	inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	inchs
Sunday 26	29.540	57.6	52.0	S. W.	58.2	63.2	46.6	105.6	44.8	0.062
Monday 27	29.581	56.5	54.0	N.	57.7	64.9	49.8	115.7	48.8	0.068
Tuesday 28	30.025	58.0	52.2	N. W.	57.7	69.4	50.2	119.1	50.9	—
Wednesday 29	30.054	64.1	55.2	W.	58.6	75.8	51.8	121.9	50.2	0.010
Thursday .. 30	30.094	61.1	58.6	S. W.	60.9	74.3	57.3	110.6	56.9	0.022
Friday 1	30.235	62.1	53.7	N. W.	60.3	72.4	52.3	119.9	49.7	0.219
Saturday.... 2	30.012	63.3	58.0	N.	61.1	73.8	57.8	119.3	53.7	—
	29.963	60.4	54.8		59.2	70.5	52.3	116.0	51.4	0.381

REMARKS.

- 26th.—Overcast almost throughout; thunder and spots of rain at 10.40 A.M.; slight shower at 1.20 P.M.
 27th.—Cold with frequent rain, but occasional sun, especially in the afternoon.
 28th.—Fair, with frequent faint sunshine.
 29th.—A pleasant summer day.
 30th.—Overcast morning, with occasional drizzle till 10 A.M.; some sunshine in afternoon, and a shower at 4 P.M.
 1st.—Fine and generally sunny day; rainy after 10 P.M.
 2nd.—Rainy till 7 A.M.; alternate cloud and sun in morning; bright after noon.
 Rather a drizzly week, warmer towards the close.—G. J. SYMONS.

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Journal of Horticulture.

THURSDAY, JULY 14, 1898.

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GRAPES SCALDING AND SHANKING.

THIS season Vines have scorched leaves and scalded berries to a greater extent than is ordinarily the case. The weather has been of a fitful nature, and mostly cold, though there have been brief hot periods. These are favouring conditions of scorching and scalding; but we must not altogether blame the weather for certain mishaps that occur. It has broad shoulders, and need have, to bear the burden which those men are the most prone to impose who take the least pains to counteract its adverse influences or mitigate its unwelcome effects. However "trying" the weather may be at times, it is well to recognise the concrete fact that it will run its own course, and our plain duty is to avert, so far as is possible, certain mishaps that may follow in its wake. Powerless as we are against the sweep of the hurricane in our natural cultures, when we work under artificial conditions we can, in a large measure, prevent certain misfortunes to which all our cherished Vines are liable.

The scalding of Grapes is the most prevalent where the panes of glass are large and clear and the ventilation inadequate. The construction of the house may be occasionally at fault, for horticultural builders, though clever, are not infallible; still they can say that in exactly the same kind of structures, and under identical weather, serious injury may occur to the Grapes in one house, while there is immunity from the same kind of injury in the other. If, therefore, it is fair to blame the builder in the first case, it is only just to praise him in the second.

The difference in results indicated cannot be attributed to the structures, but is clearly a question of management. We must, therefore, set aside the horticultural builder, and face the fact that scalding often occurs through neglect or mistakes in some form, such as faulty or insufficiently early ventilation; the lack of gentle heat in the pipes for maintaining a buoyant atmosphere; or, it may be, of gentle shade at a critical moment. Practice teaches that both scorching of the foliage and scalding of the berries can be

avoided mainly by careful attention to the temperature and ventilation. That is my experience in various districts over many years.

The Grapes I have found most liable to scald are Lady Downe's and, in lesser degree, Muscats. Hamburgs, however, will scald, especially when the Grapes are exposed to the fierce rays of the sun after a period of dull cold weather. The scalding almost always occurs at the close of the stoning period, just before the Grapes change colour for ripening, but it also happens after the colouring has commenced, particularly with Muscats, and in the latter case mainly on that part of the berry most exposed to the sun. The liability to scald may precede the general colouring by a fortnight or three weeks, and extend to the Grapes becoming well advanced in that process.

All Grapes are the better by having an increase of warmth and of air when the stoning has been completed and they are taking the last swelling, this promoting higher colour and superior quality in the fruit, always provided the crop is not too exacting, and the night temperature, as compared with the day, relatively low. This must not be accompanied by a close atmosphere, for it is the surcharging of the berries with moisture, the condensation of it on their surface, and the heating of it there by atmosphere surroundings caused by the sun the following morning, which cause scalding. For these reasons I admit air rather freely, especially in the early part of the day, with a little at night, and keep genial warmth in the hot-water pipes, so as to maintain a temperature of 65° to 70°. Under these conditions scalding can scarcely ensue. The circumstances I admit are not always the same, but generally this procedure, begun from the completion of stoning, and continued until the Grapes are ripe, has the most satisfactory results.

In certain cases a slight shade is advantageous at this period of liability to scald and during the early stages of ripening, particularly for Muscats, a double thickness of herring nets drawn over the roof lights being of great service in breaking the sun's rays at the time of the Grapes finishing stoning. This applies to structures with large panes of clear glass, and particularly when not too abundantly, or rather inadequately, provided with means for ventilation in accordance with the weather. The great evil, however, is not admitting air soon enough in the morning, for with the moisture dissipated before the sun acts powerfully on the house neither scorching nor scalding occurs to a material extent.

Shanking may be due to imperfect nutrition or suspended root action and indifferent assimilation at a critical period. I find it the least virulent—indeed, generally absent—where the borders are properly made, the components and staple of the soil excellent, the drainage thorough, and the Vines well managed. By the latter I mean the foliage must be fully exposed to light, no more growths being allowed than can have ample space for development, and at no time encouraging growth by a thicket of shoots, which must sooner or later be removed in quantity. When this occurs a check must be given, or rather first a surfeit and afterwards a failure of supplies. Sufficient foliage should be encouraged as can have due exposure, and no more allowed than can be kept in a healthy state; then the supplies of nutrition may be steadily and adequately maintained, not otherwise. The formation of starch and the storing of chlorophyll depends upon nutrition and assimilation, and the conversion of these at the proper time into Grape sugar and the purple black or golden amber of the Grapes. This can only be effected by providing a border of sound materials, and in such condition as to supply wholesome food. Then the foliage must be stout in consequence of judicious ventilation in the early stages of development, not keeping the air too moist and close.

The great cause of shanking, however, is unsuitable border material, inefficient drainage, or roots running deeply in a poverty stricken sub-soil. Heavy coverings of manure in autumn or winter allowed to become soapy, soddening and souring the earth, and then exposing this soil to the heat and drought of summer, are certain means of producing shanked Grapes. Souring the border with liquid manure destroys the all too few fibrelets that remain, and the Grapes shank; in fact the evil of shanking is a consequence of errors in treatment.

There is no remedy for shanking. When it once commences it cannot be stopped, but the malady can be prevented. Lifting the Vines, removing the effete material and supplying fresh compost of the right kind over good drainage, never fails when the after management is appropriate. This procedure, however, cannot always be carried out, and if often happens that a soured soil may be made sweet by a dressing of ground gypsum, not calcined. Failing this, similar results may follow the use of lime spread on the surface and left there to become chalk or carbonate of lime, the rain or watering taking down its solvent properties from time to time, and the Vines are improved. The border needed sweetening, the food made wholesome and nutritious, and the gypsum or lime are means to that end. This chemical change may be effected in other ways, such as aëration by means of draining a wet border, breaking up close soil and adding opening material, so that air can circulate through the mass. Improvement may also follow from a top-dressing of some fertiliser different from that with which the soil may be surcharged. Native guano has done good when the soil was deficient in humus, but with a deficiency of this silicate manure has had better effect in mitigating the shanking of Grapes.—PRACTITIONER.

THE PICK OF THE PEAS.

THE garden prototype of the man so often met with in the train, who demonstrates his intimate knowledge of everything in the universe, sometimes starts on the subject of Peas, only to be swiftly confounded. The constantly increasing number of varieties, combined with their variation under differing circumstances, presents a study which these shallow minds find overwhelming. Sir Walter Besant always says that it does not matter in the least how many books are produced, the public may be trusted to make its own selection. Assuming this to be true, we may straightway appropriate the argument, and apply it to other things, including Peas. Of course, the process suits the producer of vegetables just as it does the writer of books, because as there is never any cessation in the introduction of fresh aspirants, the unfortunate public never gets out of the experimental stage, but must always keep on buying.

Peas are good this year, and the rising reputation of several comparatively new sorts seems likely to be augmented. First among them, although not absolutely the earliest, is Gradus. It will be a very surprising thing to me if this Pea does not elbow out large numbers of the standard earlies. When you get a 3½ foot Pea, that is only a few days later than Lightning, that has as fine a pod as Duke of Albany, and that possesses sweet marrow flavour, you have a sort to which that much-abused phrase "a great acquisition" deservedly applies. Although strongly prepossessed in favour of the variety before sowing, from seeing it so good last year, I was inclined to look coldly on it in the early stages of its growth this season, as it was rather "niggly" and slow in development. When Lightning, Early Giant, Springtide, Early Morn, Wm. Hurst, English Wonder, and Chelsea Gem were full of bloom, Gradus was in a very leisurely manner proceeding to develop its first flowers. When fairly started, however, it went ahead with such leaps and bounds as to outstrip all except Lightning and Springtide. Though barely so early as these, it is in the main a vastly superior Pea.

Daisy, in its turn a few days behind Gradus, is a splendid sort. It bears the fine, imposing pods of a main-crop Marrow on haulm barely 2 feet in height. It is a very healthy grower, with plenty of colour and substance. A septuagenarian of my acquaintance pulled me up in a few words of praise about it a short time ago. It was splendid the first year, he said, but no good the second. He knew, because he had tried it. Moreover, there could be no more infallible test than that to which he had submitted it, inasmuch as he had saved his own seed. The hesitating way in which the veteran denied having eaten the best of the crop, and utilised only the fag-end for seed, was not without significance.

Suttons' Early Giant and Carters' Early Morn are running a close race for favour. They are of similar pod, habit, height, and season, so that both are not wanted in the same garden. Certainly no one need desert his favourite seedsman on account of either. Each is good. Nor is it easy to make a choice between Chelsea Gem, English Wonder, and Wm. Hurst for a first early dwarf. I have them all, and as they take up so little room I am not at all sure that I shall cast any of them into the shades. But Chelsea Gem is a grand little Pea. Mr. S. Deadman showed me a series of rows of it on the boys' plots at Wye, Kent, a few days ago, which were a picture of health and productiveness; and one of the best of Kentish gardeners, Mr. Rowe of Squerryes Court, Westerham, tells me he sows a gallon of

it for his early supplies. It has a more curved pod than the other earlies, and is one of the dwarfest, but, like every variety which I have seen, it does a great deal better with sticks than it does without them. As I believe I am at a fairly safe distance just at present, I may venture to say that any Pea grower with sticks at his command who does not use them for his dwarf Peas, ought to have them applied like the old familiar birch.—W. PEA.

PANSY GROWING.

THE Pansy trade in this country has now reached wonderful dimensions, as there are many large growers who raise them by the millior, and hosts of smaller ones who make a speciality of the improved forms of Heartsease. Judged by the standard of the older florists, many popular strains of these beautiful flowers would be considered coarse, deficient in substance and good form; but the public as a body know nothing of the points an ideal flower should possess, but they love beautiful flowers, and will buy them when they meet with varieties which "take their fancy." Raisers, therefore, strive to meet those fancies, and in doing so receive their reward.

Pansies are essentially flowers which can be grown and sold cheaply, hence it is that they command such a ready sale. The present is an excellent time to sow the seed. If sown earlier I find that in warm seasons they suffer considerably through drought, and should the autumn also prove fine the shoots get too long by the time they begin to flower in spring, for to be in the best condition for market the plants should be sturdy, with one or two expanded flowers. If half the quantity of seed required is sown now, and the remainder a fortnight hence, a good succession of plants will be secured. Fortunately it is not necessary now to obtain seed from Germany, as during recent years many British firms have devoted much attention to seed-saving, and some of them may now fairly claim to have the finest strains of Pansies in the world.

As a rule the seed of mixed varieties is not satisfactory, as there are a few striking colours which the public prefer, and which growers should therefore make a point of getting. Giant yellow, white, bronze, and purple seem to be the favourite colours, and these can be obtained in separate packets. Seeds sown in the open ground usually do very well if attended to in the matter of watering should the weather prove dry, but I always prefer to sow in boxes, as the bulk can be placed where they are constantly under one's eyes and near the water, so that there can be no excuse for neglect in the matter of watering.

I sow in ordinary garden soil, just cover the seeds, press the soil with a board, give a thorough watering, and shade till the seedlings appear. There is no plan to beat sowing the seed thinly to induce a sturdy habit from the start; they then need not be pricked out till they have become quite strong and well rooted. When there is plenty of ground vacant they may be transferred direct from the boxes to their permanent nursery quarters; but should the weather prove dry, this plan entails much labour in watering. I prefer to prick them out 3 inches apart, and eventually lift the alternate plants, and set them 6 inches apart as space becomes vacant. The extra amount of labour entailed in transplanting half the number of plants is more than compensated for by the convenience of watering the small space they at first occupy.

A good loamy garden soil—not too heavy, and yet of a slightly holding nature—is one that suits Pansies admirably, and it pays to thoroughly manure land which is not rich before planting. When the best has to be made of a light soil, the manure used should be rich and close. Cow or fowl manure answers splendidly; failing this good stable manure, which does not contain much straw, answers well. When the plants are established little attention is necessary beyond hoeing frequently, to keep down weeds and to induce free healthy growth. In favourable seasons many of the plants will be in flower by September and October, when there is a fair demand for them for planting out as summer bedding is removed; but the bulk of the plants are not required till the following spring, from March onwards.

In packing for the markets the plants should be lifted with a ball of earth, and be neatly tied up in paper or soft hay; the latter material I think the better, as it is always clean, and does not get soft and discoloured like paper if the plants have to be watered after they are packed. For local markets a convenient plan is to pack a dozen roots (which have previously been tied up) in shallow seed boxes; but for sending by rail, boxes from 10 inches to a foot in depth, made to hold six dozen, are usually employed.

Good plants when sold wholesale usually realise from 1s. to 1s. 6d. a dozen, and when the work of production is carried out on systematic lines this is satisfactory, though not a fortune-making business, because it is absolutely necessary to have a good strain of flowers, or there will be great difficulty in selling the plants, however well they may be grown.—H. D.



ONCIDIUM CONCOLOR.

THIS is one of the most charming of cool house species now in flower, the pendant racemes of golden yellow flowers lasting well in good condition, and, moreover, very freely produced. Small pans of peat fibre and sphagnum moss suspended from the roof of a house where *Odontoglossum crispum* thrives will suit it well, and at all times a moist, cool atmosphere must be maintained. The roots must be kept moist all the year round, for if once allowed to shrivel the plants are not easily brought back to a healthy state.

STANHOPEA EBURNEA.

There is not a more free-flowering *Stanhopea* in cultivation than this, or a more beautiful one, the lovely white sweet-scented blossoms being second to none in the family for beauty, though unfortunately evanescent, as are all in the genus. To grow this species well a warm moist house is necessary, and the plants, though liking plenty of light, must be shaded from the brightest rays of the sun. It does well if suspended from the roof in a house where *Dendrobiums* thrive. Wire baskets are best, owing to the large openings between the wires, and these should be half filled with clean crocks for drainage, laying a few large pieces over the bottom and sides of the basket, that the spikes may find their way through freely. For compost use equal parts of peat or loam, fibre, and sphagnum moss, the loam being preferred for the larger and stronger plants.

During the time the plants are in active growth the roots should be very freely watered, few Orchids in fact needing more water, and unless the foliage is frequently damped red spider is sure to put in an appearance. The flowers last only about a week in good condition, but as a rule the plants produce several lots of flowers in a season, so that where there is a fair stock of plants one or more is in flower all through the spring and summer. Unlike some other species, *S. eburnea* is not inconvenienced by rebasketing, provided it is gone about carefully, and though some show their resentment to this treatment by refusing to flower, this species often flowers profusely just after disturbance. *S. eburnea* was the first *Stanhopea* introduced to this country, having been sent by Sir R. Woodford to Messrs. Loddiges in 1824. It is a native of Trinidad, Guiana, and other places off South America, and has also been described as of Brazilian origin, though this is doubtful.

TRICHOPILOIA MARGINATA.

This is one of the prettiest of cool house Orchids now in flower, the variety *lepidota* being especially effective. The blossoms have a white margin, and the sepals and petals as in the type; but it is nearly covered with rosy pink spots. They are also larger; indeed, it is a superior Orchid. The lip is broad and deeply frilled, making up a handsome and effective flower. The plants are not difficult to grow if received in good health, but once the roots get into a bad state it is sometimes difficult to restore them to health. The most likely plan is to turn them out of their pot and place in nearly all sphagnum moss and crocks, at the same time allowing rather more warmth than usual. *T. marginata* is one of the discoveries of the ill-fated Polish collector M. Warscewicz, who met with it on the extinct volcano of Chiriqui about 1850, and who introduced it to this country shortly afterwards.

RODRIGUEZIA SECUNDA.

The colour of this species is rather unusual, and very beautiful—a kind of frosted rose—and the spikes are produced with the greatest freedom. It is like a *Burlingtonia* in habit, and the flowers appear all on one side of the spike. It is easily grown in a warm, moist house, and while not recommending blocks for the species generally, owing to the amount of care required in watering, the finest plants of it I have ever seen were grown on rough blocks of wood suspended over a water-tank in a warm, moist house. No great amount of compost is necessary in any case, and the plants may also be well grown on blocks of Tree Fern stems. It was at one time a very popular species, and even now is well worth growing. It is an old species introduced from Trinidad very early in the present century. — H. R. R.

SHOW AND FANCY PELARGONIUMS.—The majority of these are now going out of flower, and the plants will be better for being placed in the open air in a sunny position, where the wood can be thoroughly ripened previous to cutting down the plants. Only supply the roots with water, as was done in the greenhouse. Less, however, will be required as the cutting down period approaches.—S.

MONTBRETIA CROCOSMÆFLORA PLENA.

THE double form of *Montbretia crocosmæflora*, of which "F. J. R." seeks information, was shown by Sir Trevor Lawrence, Bart., some five years ago, and received a first-class certificate from the Royal Horticultural Society. It was originally procured from the Continent, but no particulars of its origin were forthcoming. It is, of course, totally distinct from any of the others, and is very attractive, as may be seen in the woodcut (fig. 4). Strictly speaking the form is semi-double, but the flowers are well filled, and in colour they are bright orange yellow. This promises to be a valuable addition to a useful class of plants. None of the *Montbretias* at present receives the attention it deserves. *M. Pottsi*, *M. crocosmæflora*, and others are exceedingly useful from their free-flowering nature, their distinct colours, their long period of beauty, and their ease of culture.



THE NEWTOWNARDS ROSES.

YOUR reporter has unintentionally made the inference that Messrs. Dickson & Sons, Newtownards, set up a box of Roses at the Crystal Palace Show for a prize they had given, and won it. As stated in the *Journal of Horticulture* two years ago, the "Dickson" cups and prizes were given by Mr. Charles J. Grahame in 1896 for amateurs and professionals. Mr. Lindsell won his outright last year, and the professionals' cup has been won by Mr. F. Cant (1896), Messrs. Harkness (1897), and this year by Messrs. Dicksons. There is no good reason why they should not show for it, as I am under the impression that it was given as a mark of interest in the Newtownards productions, which were felt by the donor of the cup to be worthy of honour, and surely the raisers of these Roses were entitled to win it if they could. The contest this year was a very close one, there having been, I am told, only one point between Messrs. Dickson and Mr. Frank Cant, who would have won the cup outright if he had been successful this time.—AMATEUR OBSERVER.

[We are much obliged by this correction of a momentary misapprehension. As the cup is offered for the best blooms, whoever may grow and stage the best is obviously entitled to win it. But why could it not be called the "Grahame cup?" It could not have a better or more appropriate name.]

AN APPRECIATION.

I NOTICE from your excellent report of the Crystal Palace Rose Show, "the Dickson cup," for twelve distinct Roses sent out by Messrs. Dickson, was won by that firm with Mrs. Sharman Crawford, Helen Keller, Mrs. W. J. Grant, Tom Wood, Robert Duncan, Jeanie Dickson, Countess of Caledon, Marchioness of Dufferin, Killarney, Ards Rover, Muriel Grahame, and Daisy. This, as you notice, is an almost unique distinction, and I will be obliged if you allow me to note, as a limited grower in the South of Ireland, that here we are as proud of the great successes of Messrs. Dickson as pedigree seedling Rose raisers as their more immediate friends in the North of Ireland.—W. J. MURPHY, Clonmel.

SCHEDULE DIFFICULTIES.

IT is said that one of the most difficult things to write is a resolution, and there is much truth in the saying, and few resolutions pass without some tinkering in the process. Nor is this to be wondered at, when the combined intelligence of our Houses of Parliament so often pass Acts which a coach and horses can run through. Hence it is not surprising that schedules without flaws are scarce. Now, let me take the National this year. I do not know whether the note as to garden varieties and the exclusion of all H.P.'s—which, by-the-by, I, in common with others that I know, and whose opinions are of value—is a mistake, as losing the sight of many old friends—is a new regulation; it matters not, but in the nurserymen's section, and also in the amateur section, when the classes for garden or decorative Roses are reached, this resolution is printed in full. At the end comes the local portion, in which the prizes were offered by the Bath Floral Pête Committee; here there is also a class for garden Roses, but in this case the class is not preceded by the regulation as to H.P.'s.

Do not let me be supposed as grumbling. The fine day—which of late years has not blessed Bath exhibitions—doubtless put us all in good temper, and the judges were lenient in the extreme as to disqualifications. They were tender-hearted as chickens, and having staged in this class I judged myself as running close, if not winning the second position, in it. Well, I had staged *Boule de Neige*, and soon after, meeting one of the judges, he told me it had been a question of disqualification, but in the genial and merciful feelings which—as I have said—prevailed, they had given me third prize. My reply was, that I had consulted the National catalogue, and found *Boule de Neige* was a "garden" Rose, and had staged it. "Oh!" he replied, "all H.P.'s are excluded." Now, does this regulation, which is twice printed in the National portion of the

schedule, govern the "garden" class in the local division of the show? and, if so, should it not have preceded this class as it did the two others?

The fact is this. Having certainly only about two dozen Roses approaching bloom, I gave up all thought of exhibiting in the National classes, and confined my attention wholly to the local portion, so that I never saw this regulation, which had I noticed, I should still have considered did not apply. Am I wrong?

Some years ago, when the single *Dahlia* craze started, I remember writing that it was necessary to settle how many petals that flower should have. Setting aside the composite class, I fancy, possibly erroneously, that single flowers have a definite number of petals, and in judging the classes for single Roses, the question cropped up how many the Rose should have. I certainly should say five, and that single (?) Roses with eight or ten petals are semi-double. Now, that classes have been opened by the National for "single" Roses, it seems to me that this point should be decided, and the Dog Rose must surely be taken as our rule. Here, again, the geniality of the judges was the smoothing over of the difficulty, and the prizes were awarded. Had the competition been ever possibly more might have been heard of this.

Some of our botanical friends maintain that we gardeners are thwarting Nature by doubling flowers, and they are very indignant with us; but surely Nature herself invites us to improve (what anathema's wrathful botanists will heap on me!) her forms by giving us a single flower, a stamen or two of which shall be half petal, half stamen. This certainly may be allowed to pass; but when you see a Rose with eight or ten petals is it not semi-double?—Y. B. A. Z.

KENTISH ROSES.

IN his comments on the recent exhibition at Canterbury, the *Journal* reporter refers to the fact that there was a certain amount of spare tabling, and that several of the blooms were somewhat deficient in quality. He rightly makes allowances for unfavourable circumstances, and he would perhaps have gone even farther in this direction had he had an opportunity of seeing the conditions under which some Kentish rosarians have to carry on their work. A very remarkable case in point is that of the Rev. H. B. Biron, of Lympne. After several journeys along the ridge whereon the vicarage is perched, I have come to the conclusion that if there is a windier place in Britain it ought to be placarded, so that any person with a wish to control his own movements may keep away from it. Once I crossed the ridge into Hythe during the winds of March, and I can only say that the average gale is a gentle zephyr compared with the chill blasts which were whistling round Lympne Castle.

It is simply amazing that any man can grow show Roses in such a place. The bleakness and exposure are something to remember. What can be done in providing shelter has been done. Without it, nothing short of attaching heavy weights to each plant would prevent the whole collection from being whisked away and flung into Dungeness Bay. Comparative calm (which at any other place would be considered half a gale) prevailed on my last visit, and although I did not find the reverend rosarian at home, I saw a heap of show boxes on the drive, and a charming display of Roses in the garden, both evidences of his persevering hand. I hope they are there still, but I should never be surprised to hear that the whole place has been blown over to Demerara.—W. P. WRIGHT.

ROSE SHOWS.

DISS.—JULY 5TH.

A DECIDEDLY noteworthy feature at this show is the arrangement of the staging in the centre of the Rose tent. Two parallel planks, raised 5 or 6 inches by cross-pieces of wood at intervals, run down the centre of the staging, so as to form a ledge or shelf behind each row of boxes. When the stands are ready, they are propped up behind upon these ledges, instead of upon blocks or flower pots. The advantages of this system are:—Exhibitors are not obliged to bring blocks with them; it is very easy to arrange a long line of boxes at exactly the same angle; when a long line of boxes all finally arranged has to be shifted at the last moment, the boxes can be simply slid along (a great advantage this); and, also, all stands can be moved back a few inches from the edge of the staging, to the comfort of the spectators, who are not pushed too near to be able to see, and of the Roses, which are not rubbed against and destroyed by elbows.

In the open class for thirty-six Messrs. Frank Cant & Co. were first, a splendid Mrs. John Laing being noteworthy in quite a good stand. Mr. B. R. Cant was second with smaller blooms; and Messrs. Prior and Son third. Marchioness of Dufferin was noticeably bad in all three stands. Mr. Orpen retained possession of the cup for twenty-four by a single point. His best Roses were *Souvenir d'Elise* (which was the best amateur Tea) and *La France*. The Rev. A. Foster-Melliar was second, having good samples of *Marquis Litta* (best "other than T. or N."), *Madame Cusin*, Dr. Sewell, and Viscountess Folkestone.

For twelve Teas (amateurs) Mr. Orpen was first with a level stand, but nothing remarkable. Rev. F. Page Roberts second with fine specimens of *Comtesse de Nadaillac*, *Catherine Mermet*, *Ernest Metz*, and *Cleopatra*; but a front row of buttonholes only. It is true they would be worth a point apiece if Euclid's definition of a point, as "that which hath no parts and no magnitude," were adhered to. Mr. Foster-Melliar was third, with good specimens of *Cleopatra* and *Madame Cusin*.

The local classes were fairly filled, and the display of herbaceous plants was good, though not large. Dinner tables and decorations were easy to judge, Mrs. Orpen's skill being invincible. A class for rare wild flowers, which in past years used to excite much interest, as two good-

rival botanists used to exhibit well against each other, has unfortunately had to be given up, a complaint having been made that the rare local species were disappearing. The day was fine, and there was a good average attendance.—W. R. RAILLEM.

HEREFORD.—JULY 5TH.

THE thirty-second anniversary of the Hereford and West of England Society was held in the Shire Hall, Hereford, when favoured by perfect weather, splendid flowers, and a fashionable and numerous attendance, this beautiful county, so dear to the classic deities, Queen Rosa and Queen Pomona, achieved a brilliant success. Not that the abnormal success of last year was to be expected, when seven seventy-two's faced the judges (as at the Palace N.R.S. Show); but was not that the Diamond Jubilee, when every event was out of proportion, and every description in hyperbole? The season, too, falsifying its advent, was unexpectedly late, nevertheless the entries were well filled and kept, and what is of even more importance than quantity, the quality of the blooms for size and colour and smoothness was remarkable.

The premier honours, as last year, were carried off easily by Messrs. Alexander Dickson of Newtownards, whose collection of seventy-two's, in the opinion of your reporter, is the finest in his recollection (and his experience as a judge carries him over more years than he cares to count), and could have missed by very little, counting full points; but it is more as a raiser of new Roses, mostly H.T.'s, that this firm has of late years become celebrated. At Hereford on Tuesday there were to be seen in almost every good collection most interesting varieties, not ephemeral productions mostly of the imagination, but shapely, substantial things of beauty, sure to hold their own.

May your reporter add a few words to his initiatory remarks as to the overdone practice of a perfectly lawful, nay, indispensable custom, which finds an hysteric climax just before the judges begin their rounds? I allude to the hurried, and consequently harrowing indignity, to which the frail objects, hitherto of so much worship, are subjected in the transformation scene that takes place; presto! between the *en papillotte* stage, the Cinderella, and the Columbine. The Society's energetic and too popular Hon. Sec. can only too painfully endorse the facts, that two blooms in the best collection were at the last moment almost left unsnipped and undressed, and all this, in spite of the fiat of the N.R.S. rule, that blooms thus overlooked are not to count. It is, however, not to specialists, but to small pro.'s and some amateurs, that I relate, perhaps with profit, what I saw and heard last week. Your reporter happened to be by an amateur who was giving the final touches to his boxes after the room-clearing bell had rung. With all five digits, or rather I should say thumbs, with bone end of budding knife, and with distended cheeks, he went to work. His assistant was equally energetic, and the last words I heard in the fearful process of giving a fresh, healthy lot of blooms, a shrivelled and prematurely old look, were, "Tom! mind, be careful; it won't do to break off any more leaves!" and, unfortunately, the judge was of the same opinion.

For seventy-two varieties, distinct, open to nurserymen, four competed, and Messrs. A. Dickson secured the premier prize. The varieties were Madame Eugène Verdier, Gustave Piganeau, Marchioness of Downshire, Marquise de Castellane, Lady Mary Fitzwilliam (perfect), Marquis Litta, Caroline Testout, Ulrich Brunner, Robert Duncan, Susanne Marie Rodocanachi, Mrs. R. G. Sharman Crawford (perfect), Victor Hugo, Marie Verdier, Lady Clanmorris (good), Mrs. W. J. Grant (finest Rose in Show), Marie Baumann, Janet Scott, Earl of Dufferin (grand), Jeanie Dickson, Duke of Fife (exquisitely rich and smooth), Mrs. John Laing, Helen Keller, Luciole (good), Etienne Levet, Lady M. Beauclerc, A. K. Williams, Sylph, La France, Dr. Andry, Mrs. Mawley (immense substance), Tom Wood (fine), Mrs. Conway Jones, François Michelin, Countess of Caledon (superb), Duke of Edinburgh, Ulster (glorious bloom), Beauty of Waltham, Mrs. David McKee (fine), Marie Rady, Souvenir d'Elise Vardon (exquisite), Elie Morel, Margaret Dickson, Alphonse Soupert (splendid), Danmark, Duchess of Bedford, Kaiserin Augusta Victoria (everywhere good), Le Havre, Madame Gabriel Luizet, Abel Carrière, Madame Cusin, Thomas Mills, Duchesse de Vallombrosa, Xavier Olibo, Merveille de Lyon, Dupuy Jamain, Daisy, E. Y. Teas, Marchioness of Dufferin, Charles Darwin, Heinrich Schultheis, Louis Van Houtte, Maman Cochet (best new Tea), Duke of Wellington, Bessie Brown (purest white), Catherine Mermet, Annie Wood, The Bride, Exposition de Brie, Alice Grahame, Auguste Rigotard, Antoine Rivoire (grand), and Général Jacqueminot. The above seventy-two gained nearly full points, and were of rare excellence. Messrs. Alex. Dickson also took first prize in the twenty-four singles, second in the eighteen Teas, and swept the board in the light, dark, yellow, and white Roses in the open classes.

Messrs. Frank Cant took second prize in the seventy-two with a fine collection, including unusually good blooms of Medea, Clio, Mrs. Frank Cant (quite a new departure in colour), and Mrs. W. J. Grant. Messrs. Townsend & Son took third prize with an excellent collection of fresh and bright blooms.

In the class for thirty-six varieties first prize went to Mr. George Prince, whose collection included specially fine blooms of Tom Wood (great acquisition), Ulster, and Mrs. E. Mawley. Messrs. S. Treceder, Cardiff, second prize; and Messrs. Pewtress, Tillington, Hereford, third prize.

For twenty-four varieties the first prize was secured by Messrs. Alex. Dickson with a magnificent collection, including perfect blooms of Tom Wood, Ulster, Mrs. E. Mawley, Bessie Brown, Horace Vernet (splendid colour), and the H.P. Louise Van Houtte, as seldom seen exhibited.

Second prize, Messrs. Townsend; third prize, English Fruit and Rose Co., Kingsacre.

In the amateurs' class for twenty-four, distinct, Mr. Conway Jones, who is showing finely this year, easily carried off first prize with an excellent collection. The varieties were Gustave Piganeau, La France, Victor Hugo, Maman Cochet, Horace Vernet, Caroline Testout, Ulrich Brunner, Niphotos, Heinrich Schultheis, Louis Van Houtte, Mrs. John Laing, Comte Raimbaud, Marchioness of Downshire, E. Y. Teas, Madame Gabriel Luizet, A. K. Williams, Prince Arthur, Souvenir de S. A. Prince, Susanne Marie Rodocanachi, Princess of Wales, Helen Keller, The Bride, Comtesse Ludre, and Catherine Mermet. Second prize, Rev. J. H.



FIG. 4.—MONTBRETIA CROCOSMEFLORA PLENA.

Pemberton, not quite up to this noted exhibitor's high standard; and third prize, Dr. Budd, Bath.

In the class for eighteen Teas or Noisettes Mr. George Prince was first with Comtesse de Nadaillac, Cleopatra, Souvenir de S. A. Prince, Bridesmaid, Princess of Wales, Ernest Metz, Madame de Watteville, Golden Gate, Madame Cusin, Maréchal Niel, Souvenir d'un Ami, Souvenir d'Elise Vardon, The Bride, Maman Cochet, Alba Rosea, Empress of Russia, Medea, and Innocente Pirola.

In the Herefordshire amateurs' class for eighteen varieties the first prize (gold medal) was taken by Rev. Preb. G. E. Ashley, who showed brilliantly. He also took in same section the N.R.S.'s two silver medals for the best Tea Rose and best Rose exhibited by an amateur in the division. Second prize, Rev. C. H. Bulmer, Credenhill Rectory; third, Captain Cotterell, Garnons, Hereford.—HEREFORDSHIRE INCUMBENT.

HITCHEN.—JULY 6TH.

THIS exhibition was held in glorious weather from a rosarian's point of view, the morning, prior to the judging, being dull and cloudy. Exhibitors came up strongly in most of the classes, and the amateurs made a brave show with their section. One of the features of the exhibition was

the large open class for hardy flowers, which brought out a strong competition, and made a very gay display.

There were three competitors in the premier class for forty-eight varieties, distinct. Messrs. Harkness & Sons, Bedale, were placed first with a fresh exhibit. The varieties were Ulrich Brunner (grand), Caroline Testout, Captain Hayward, S. M. Rodocanachi, Mrs. W. J. Grant, Heinrich Schultheis, Her Majesty, Comtesse d'Oxford, Mrs. John Laing, Duke of Fife, Margaret Dickson, Gustave Piganeau, Mrs. Harkness, Marie Baumann, Mrs. Sharman Crawford, Magna Charta, Madame Cusin, Horace Vernet, Kaiserin Augusta Victoria, Duc de Rohan, Souvenir d'Elise, Senateur Vaisse, Pride of Waltham, Marquis Litta, The Bride, Comte de Ludre, Marie Van Houtte, Louis Van Houtte, Madame Hoste, Général Jacqueminot, La France, Duchesse de Morny, Rubens, A. K. Williams, Madame Gabriel Luizet, Dupuy Jamain, Hon. Edith Gifford, Fisher Holmes, Alfred Colomb, Duke of Connaught, Duchess of Albany, Exposition de Brie, La Fraicheur, Le Havre, Marchioness of Downshire, E. Y. Teas, and Emily Laxton. Messrs. J. Burrell & Co., Cambridge, were second, and Messrs. Paul & Son, Cheshunt, third.

For twelve Roses, six light and six dark, Mr. E. B. Lindsell, Hitchin, was placed first with Mrs. John Laing and Horace Vernet; Messrs. Harkness & Sons second with Mrs. John Laing and Captain Hayward; Messrs. Paul & Son third with Mrs. John Laing and Duke of Fife. For eighteen bunches of garden Roses, five trusses in a bunch, Messrs. Harkness & Son were first, and Messrs. Paul & Son second.

In the amateur class for eighteen Roses, distinct, Mr. E. B. Lindsell, Hitchin, secured first prize with a remarkably even stand. The varieties were Ulrich Brunner, François Michelin, Comte Raimbaud, Mrs. J. Laing, Gustave Piganeau, S. M. Rodocanachi, Mrs. S. Crawford, Horace Vernet, Her Majesty, A. K. Williams, La France, Madame Hausmann, Duke of Wellington, White Lady, Maurice Bernardin, Mrs. W. J. Grant, Xavier Olibo, and Helen Keller. Mr. S. S. Berger, Knebworth, was second, and the Rev. W. H. Jackson, Bedford, third. For twelve Teas or Noisettes Mr. E. B. Lindsell repeated his success with a stand in first-rate form. The varieties were Comtesse de Nadaillac, Ernest Metz, Muriel Grahame, Maman Cochet, Souvenir d'Elise, The Bride, Madame Cusin, Caroline Kuster, Anna Olivier, Marie Van Houtte, Innocente Pirola, and Madame de Watteville. The Rev. W. H. Jackson was second, and Mr. S. Berger third. For twelve, distinct varieties, Mr. Geo. Moules, Hitchin, was first with a good exhibit. The varieties were Caroline Testout, Comte Raimbaud, Kaiserin Augusta Victoria, Heinrich Schultheis, Mrs. John Laing, Horace Vernet, Ulrich Brunner, Exposition de Brie, Rosieriste Jacob, Madame G. Luizet, Victor Hugo, and A. K. Williams. Mr. W. Kingston, Bedford, was second, and Mr. W. O. Times, Hitchin, third. Mr. J. T. Hunt, Hitchin, was placed first for six Teas or Noisettes, Mr. W. Kingston being second, and Mr. G. Moules third.

For six blooms, one variety, Mr. E. B. Lindsell was first with good flowers of Ulrich Brunner. Mrs. G. A. Moules second with Margaret Dickson, and Rev. W. H. Jackson third with Madame Gabriel Luizet. For six Tea or Noisette Roses, one variety, Mr. E. B. Lindsell was again to the front with a good stand of Madame Hoste. The Rev. W. H. Jackson second with Souvenir de S. A. Prince, and Mr. S. S. Berger third with Medea.

There was keen competition in the class for thirty-six bunches of hardy flowers, Messrs. J. Burrell & Co., Cambridge, being placed first with a grand display. Messrs. Harkness & Sons were second, and Messrs. Paul & Son third.

FARNINGHAM.—JULY 6TH.

THE twentieth exhibition of this Society was held on the above date, and was a great success, both in the number of entries and quality of the exhibits.

In the trade classes for thirty-six varieties of cut blooms, Mr. B. R. Cant was placed first, his stand containing White Lady, Dr. Andry, Gustave Piganeau, Mrs. J. Laing, Capt. Hayward, Mrs. W. J. Grant, Etienne Levet, Madame Eugène Verdier, Dupuy Jamain, La France (good), Ulrich Brunner, Xavier Olibo, Madame G. Luizet, Marquis Litta (fine), Marchioness of Downshire, Susanne Marie Rodocanachi, Caroline Testout, Marie Baumann, Charles Lefebvre, Marie Verdier, Duke of Edinburgh, Margaret Dickson (grand), Beauty of Waltham, Duchesse de Morny, Golden Gate, Comtesse de Ludre, Bridesmaid, Edouard André, Heinrich Schultheis, Duke of Teck, Violette Bowyer, Tom Wood, The Bride, and Général Jacqueminot. Mr. F. Cant was second, his best blooms being La France, Général Jacqueminot, Marchioness of Downshire, Marie Baumann, Tom Wood, and Reynolds Hole. Mr. G. Mount, Canterbury, was third.

For eighteen Teas Mr. B. Cant was again placed first with a very even and fresh stand of the following—Niphotos, Madame de Watteville, Innocente Pirola, Bridesmaid, Medea, Madame Cusin, Souvenir d'un Ami, Catherine Mermet, Ernest Metz, Souvenir de S. A. Prince, Maman Cochet, Muriel Grahame, The Bride, Golden Gate, Devonensis, Jean Ducher, Cleopatra, and Souvenir d'Elise Vardon. Mr. F. Cant was second, and Mr. G. Mount third. For nine varieties of Teas, three trusses of each, Mr. B. Cant was first with Cleopatra, The Bride, Souvenir d'Elise Vardon, Bridesmaid, Golden Gate, Ernest Metz, Souvenir d'un Ami, Souvenir de S. A. Prince, and Madame Cusin. Mr. F. Cant second, and Mr. Mount third.

In the amateurs' class for twenty-four varieties C. E. Shea, Esq., The Elms, Foot's 'ray, was placed first. Very fresh and admirably arranged was his stand; the varieties were Dr. Andry, Marquis Litta, A. K. Williams, Jeanie Dickson, Etienne Levet, Mrs. W. J. Grant, Gustave Piganeau, Margaret Dickson, Kaiserin Augusta Victoria, Général Jacqueminot,

Heinrich Schultheis, Xavier Olibo, S. M. Rodocanachi, Lady Mary Fitzwilliam, Pride of Waltham, Countess of Rosebery, Victor Hugo, The Bride, Duchess of Bedford, Innocente Pirola, Madame G. Luizet, Niphotos, Captain Hayward, and Marie Van Houtte. Second, Colonel Pitt, Turkey Court, Maidstone, the best blooms being Dupuy Jamain, Ulrich Brunner, La France, and Madame G. Luizet; R. E. West, Esq., Reigate, being third. For twelve varieties, Teas or Noisettes, Col. Pitt was first for a fresh even stand of the following:—Souvenir d'un Ami, Etienne Levet, Comtesse de Nadaillac (good colour), Ernest Metz, Souvenir d'Elise Vardon, The Bride, Anna Olivier, Souvenir de E. Levet, Marie Van Houtte, Madame Hoste, Catherine Mermet, and Innocente Pirola. R. E. West, Esq., was second with smaller blooms; and Dr. Hoysted, Swanley, third.

For six Roses, one variety, Col. Pitt was first with Marie Rady, very clean even blooms; Dr. Ashurst, Farningham, second; and Dr. Hoysted third. For six Roses, one variety, light, Col. Pitt was first with La France, grand blooms. J. C. Trueman, Esq., Swanley, second, with the same. For twelve Roses, for amateurs growing less than 1000 plants, C. E. Shea, Esq., was again first, S. M. Rodocanachi, Caroline Testout, Etienne Levet, A. K. Williams, Mrs. W. J. Grant, Captain Hayward, Jeanie Dickson, Mrs. S. Crawford, Général Jacqueminot (silver-gilt medal for best bloom), Cleopatra, Xavier Olibo, and Innocente Pirola being represented. J. C. Trueman, Esq., was second; and Dr. Ashurst third.

For nine varieties open to those who grow less than 500 plants, J. C. Trueman, Esq., was first; A. Bryans, North Cray, second, and W. A. Searing, Swanley, third. For six varieties Teas, the first prize was taken by Rev. F. R. Burnside, St. Margaret's Bay, Dover, with Hon. E. Gifford, Ernest Metz (the best bloom in the show), Rubens, Maman Cochet, Madame Bravy, and Anna Olivier; A. Bryans, Esq., second; J. H. Dalton, Esq., Chislehurst, third. For six varieties for those who grow less than 250 plants, J. C. Trueman, Esq., was first with Duke of Fife, Medea, Thomas Wood, La France, Marie Baumann, and Madame G. Luizet. J. H. Dalton, Esq., was second, and S. Allen Shuter, Esq., Horton, Kirby, third.

As is usual at this show, the dinner table decorations and vases of cut flowers were numerous. In strong competition for three vases Mrs. Searing, Swanley, was placed first for a very light arrangement; Miss A. Hale, Horton, Kirby, was second, and Miss Hodsoll, Farningham, third. For a single vase or centrepiece, Miss Allenson, Eynsford, was first; Mrs. Searing, second, and Miss Coombe third.

For a table, 9 feet by 4 feet, arranged for effect, T. Spalding, Esq., South Darenth, was placed first for a beautifully arranged table. The flowers used were Tea Roses and Gypsophila, interspersed with Maiden-hair Fern and trails of Smilax. The second position went to Mr. R. Edward, Otford, for an arrangement well carried out, the flowers being Geums, Aquilegia chrysantha, and Gypsophila, with Asparagus plumosus and Adiantum; Mrs. Vidas, Farningham, was third, pink Carnations being the only flower used.

Messrs. Cannell & Sons of Swanley, exhibited a grand collection of vegetables, Carrots, Peas, and Potatoes being especially good. The same firm also sent a group of flowering and foliage plants, not for competition. The Horticultural College, Swanley, also staged flowers, plants, and vegetables.

WOODBIDGE.—JULY 7TH.

HERE, at last, were Roses indeed, better than any I saw at the Crystal Palace. For thirty-six (open) Messrs. Prior & Son were first with a capital stand of which Mrs. John Laing, S. M. Rodocanachi, and La France were perhaps the best. After much laborious pointing the judges were unable to separate the two other competitors, Mr. B. R. Cant and Messrs. Harkness & Son. Madame Delville, La France, Charles Lefebvre, and Mrs. J. Laing were good in the former's box, and Mrs. J. Laing and Comtesse de Ludre in the latter's.

In the 25-guinea cup class (twenty-four), Mr. B. R. Cant was easily first with a very fine stand, certainly one of the finest I ever saw. One knows that the right hand bottom corner is generally the place to look for a weak spot if there is one; the two blooms in that corner were Marchioness of Downshire and Comtesse de Ludre, and either of these, I feel sure, would have been good enough to win me the medal almost anywhere. It was really a difficult task to pick out the best blooms where all were so fine; but I noted Comte Raimbaud, Bridesmaid, Cleopatra, Souvenir d'Elise, Helen Keller, Mrs. John Laing, John Stuart Mill, S. M. Rodocanachi, and Mrs. W. J. Grant (the latter "impressive" enough, I should think, even for Mr. Williamson). Mr. B. R. Cant, Mr. Frank Cant, and Messrs. Harkness have each now won this cup twice, Messrs. Prior once.

For twelve Teas (open) Mr. Prince was first with Comtesse de Nadaillac, fine, but hardly up to his usual colour, and Ethel Brownlow, very fine in colour and shape. Mr. B. R. Cant was second with Golden Gate as his best; Mr. Prior third with a beautifully coloured Luciole. For twelve trebles Mr. B. R. Cant was first with fine triangles of Mrs. W. J. Grant, Caroline Testout, and Marie Baumann; Messrs. Prior second with Marchioness of Downshire, very good (well shown in several stands), Mrs. W. J. Grant, and Mrs. J. Laing; Mr. F. Cant third with a good triplet of Souvenir d'Elise and well-shaped examples of his lighter coloured sport of S. M. Rodocanachi. I think that this, if distinct, which I think it is, can hardly be called an improvement.

The amateur 12-guinea cup (twenty four) was won outright by Rev. J. Pemberton, who has won it right off the only three times it has been competed for. He had Horace Vernet and Mrs. John Laing in good order. Rev. A. Foster-Melliar second with good Ulrich Brunner

and Souvenir d'Elise; Rev. H. A. Berners third with a nice specimen of The Bride. For twelve Roses Mr. Orpen was first with a beautiful box, having a good Horace Vernet, which gained the medal as best amateur H.P., and good specimens of Mrs. J. Laing, Marquis Litta, and Souvenir d'Elise; Mr. Pemberton second, showing Marie Baumann and Mrs. John Laing well; and Mr. Berners third with a nice specimen of Mrs. Sharman Crawford.

In the class for six similar H.P.'s, someone (I think Mr. Orpen) was disqualified for a fine box of Kaiserin Augusta Victoria, as being H.T. The N.R.S. Regulation 15 says, "Hybrid Teas cannot be shown in the classes set apart for Teas and Noisettes, but may be shown among H.P.'s, and in the mixed classes." This seems to me distinctly to allow of H.T.'s being treated as H.P.'s, unless the contrary is plainly declared in the schedule; and I have always propounded that trouble must eventually arise from the ill-advised attempt to draw a line between H.P.'s and H.T.'s, as that line gets more indistinct by crossing between the two. Mr. Berners was first with Margaret Dickson, which is coming much better this year among amateurs; and Mr. John Carter second with the same variety. In six similar Teas Mr. Orpen was first with fairly good samples of Anna Ollivier, Mr. Berners second with The Bride, and Mr. Foster-Melliar third with rough specimens of Cleopatra. In the class for four trebles (amateurs) Mr. Orpen was first with clean triplets of Souvenir d'Elise and Kaiserin Augusta Victoria. The medal as the best Tea was given to one of the former, but it was very far from being a typical specimen of Elise.

It was a fine exhibition of Roses, but it was very hot in the tent, and even Mr. B. R. Cant's grand flowers, which looked as if made of cast iron, showed some sign of yielding before the day was over.—W. R. RAILLEM.

NOT much space remains for a notice of other features of the forty-seventh show at Woodbridge. Suffice it to say that it has not been excelled, if equalled, in any other town of less than 4000 inhabitants. It is an event in which most of the townspeople seem to join in providing either money, work, or bunting, and not a few of them all three, while the bells from the grand church tower peal at intervals throughout the day. The best of music is also provided, and the Abbey grounds, encircled by trees, remind somewhat of Shrewsbury in character. In addition to the magnificent exhibition of Roses above alluded to there was a charming display of garden Roses, the collections of the Hon. W. Lowther, Mr. Orpen, and Lord Battersea, which received the prizes, being especially admired.

Next to the Roses the cut flower and table decoration tent was the chief attraction. Messrs. Paul & Son, Cheshunt, had a great array of hardy flowers—one of the finest ever seen—as had Mr. R. C. Notcutt, of Woodbridge and Ipswich, not in competition. In contest for prizes, Messrs. Harkness had to stand second to Mr. C. Jacobi, of Ipswich, in the class for thirty-six bunches. There was great competition in other classes, and, perhaps, still greater with decorated tables, of which a dozen may be described as charming. In the centre of them, and a great source of attraction, was one wholly occupied with one of the finest collections of Water Lilies ever seen. There were Mr. Leopold de Rothschild's, arranged by his gardener, Mr. James Hudson. The tent, a very large one, was extremely beautiful, and crowded with a fine class of visitors.

The most noteworthy features in the plant tent were undoubtedly the groups of Gloxinias and Begonias, in separate classes, associated with Adiantums. These were very pleasing, and deservedly admired. Single Begonias were very well shown in pots. There were also fine plants of the Rex varieties, fairly good Fuchsias, and excellent Ferns. Groups were too closely packed, the space, however, was too limited for much diversity in arrangement.

Very good collections of exotic fruits were staged, especially by Mr. W. Messenger, gardener to C. H. Berners, Esq., Wolverstone, and Mr. H. Rogers, from Rendlesham Hall. Mr. A. Andrews, gardener to Hon. W. Lowther, Campsea Ash, and Mr. H. Fisher, gardener to Sir Hugh E. Adair, Bart., were also successful in several classes. There was a most creditable show of hardy fruit, though the date was fully too early for a season of late crops. Strawberries were fine, Mr. Notcutt winning the chief prize for a collection, and with the variety Gunton Park, for flavour.

Many excellent vegetables were staged, and the show in its entirety was a great success as managed by Mr. John Andrews and his indefatigable coadjutors.

ULVERSTON.—JULY 8TH.

GLORIOUS weather favoured the visitors attending the annual Rose show held in the beautiful Todbusk Park, kindly placed at the disposal of the Committee by D. Caird, Esq. As one walked from the station through the pretty town nestling at the foot of a beautiful hill, with the Bay in close proximity, the first thing to attract attention were the handsome lithographed posters announcing the exhibition, the beauty of which we have not seen approached by any society in the kingdom. The official programme, too, with its embossed headpiece of Roses, and tied with a dainty pink ribbon, contained much racy matter, and was quite unique and worthy of imitation. Then, too, all business is suspended, the inhabitants observing the day as a special holiday. The celebrated Irish firm of Messrs. Alex. Dickson & Sons, who besides taking nearly all the leading prizes, had the high distinction of being awarded the prize for the best twelve new Roses, best seedling with Agnes Henderson, a grand variety which with others will be described later on in the season, and the bronze medal for the best Rose in the show with Miss Bessie Brown. Amateurs, too, were well in the fore.

For seventy-two, distinct, Messrs. Alex. Dickson & Sons, Newtownards,

had matters all their own way with a stand equal to anything ever seen staged by this firm, the blooms being brilliant in colour and of the finest substance. All the leading varieties were represented. Messrs. D. & W. Croll were a moderate second.

For sixteen distinct trebles Messrs. Dickson & Sons were the only exhibitors, but the same excellence was maintained; Earl Dufferin, Kaiserin Augusta Victoria. Her Majesty, Bessie Brown, Helen Keller, Lady Moyna Beauclerk, Ulrich Brunner, Ulster, Mrs. Jno. Laing, Horace Vernet, Mrs. W. J. Grant, A. K. Williams, Mrs. R. G. S. Crawford, Alphonse Soupert, Mrs. Mawley, and Marquis Litta forming this superb exhibit. The same firm was invincible in the class for thirty-six, distinct, with Ulster, Ulrich Brunner, Bessie Brown, Marquis Litta, Alice Graham, Alice Lindsell, Kaiserin Augusta Victoria, Tom Wood, Mrs. W. J. Grant, Danmark, A. K. Williams, Earl Dufferin, Mrs. Mawley, Exposition de Brie, Marchioness of Downshire, Marquise de Castellane, Margaret Dickson, Mrs. J. Laing, Niphetos, Catherine Mermet, François Michelin, Ernest Metz, Her Majesty, Caroline Testout, Louis Van Houtte, Duchess of Bedford, Chas. Darwin, Souvenir de S. A. Prince, Madame Gabriel Luizet, Général Jacqueminot, Hon. Edith Gifford, Camille Bernardin, The Bride, and an unnamed Tea; all were excellent. The second honours fell to Mr. R. E. West.

For eighteen distinct—six dark, six light, and six Teas—Messrs. Dickson & Sons again headed the list with a charming stand; also for twelve Noisettes or Teas. A close contest resulted in the class for twelve any light variety, it being won by Messrs. Croll with Lady Mary Fitzwilliam, followed by Messrs. Dickson with Bessie Brown. Again the Irish firm led the way for twelve dark, staging Tom Wood in handsome form. Messrs. Dickson's twelve new Roses, distinct, were the only collection staged—Countess of Caledon, Mrs. David McRee, Mrs. Mawley, pink seedling, Bessie Brown, Helen Keller, Alice Graham, Mrs. W. J. Grant, Robert Duncan, Avoco, rose-pink seedling, and another pink seedling were shown.

In the amateur class H. V. Machin, Esq., Worksop, won with an excellent eighteen, distinct, the best being Mrs. Jno. Laing, Caroline Testout, Helen Keller, Charlotte Guillimot, Mrs. W. J. Grant, and Anna Olivier. R. Park, Esq., was a good second; and R. E. West, Esq., third. Mr. Park won with a capital twelve, distinct, the best being Captain Hayward, Mrs. W. J. Grant, and Mavourneen. Mr. Machin was a close second, and Mr. Marsden third. For six light varieties the Rev. R. J. Langtree won, and for six dark Mr. Machin, the latter winning with nine Teas or Noisettes, distinct. Mr. J. T. Marsden won the handsome 15-guinea challenge cup, which now becomes his own property, in the class for twelve distinct with a really fine stand.

The Chester firm of Dicksons, Ltd., had—not for competition—a pleasing and diversified stand of Roses and herbaceous plants, whilst the Sweet Peas staged by Messrs. Henry Eckford & Son, Wem, showed advance, and received much attention. The Hon. Secretary (Mr. F. W. Poole) and Hon. Treasurer (Mr. G. H. Mackereth), with the Committee, know no defeat, all working admirably to bring about the deserved success. The prizes were presented by Mrs. John Fell of Flan How.

MANCHESTER.—JULY 9TH.

NOTWITHSTANDING the unfavourable remarks we have heard regarding the season, the frequenters at the Botanical Gardens on Saturday last had one of the finest treats ever placed before them. The schedule was a liberal one, and exhibitors had, in the annexe to the exhibition house, an ideal place to show their blooms to the best advantage.

In the class for sixty, distinct, Mr. B. R. Cant, Colchester, was a clear first with a lovely stand, the Teas being especially fine. All the leading varieties were beautifully shown. Messrs. Harkness & Sons, Bedale, were placed second, and Messrs. Frank Cant & Co., Colchester, third.

The class for thirty-six, distinct, brought out nine exhibits, Messrs. Harkness & Sons winning somewhat easily with François Michelin, Lady Mary Fitzwilliam, Auguste Rigotard, Marchioness of Londonderry, Marquis Litta, Her Majesty, Ulrich Brunner, Madame Eugène Verdier, Gustave Piganeau, Caroline Testout, Marie Verdier, Mrs. J. Laing, Madame Gabriel Luizet, Helen Keller, Innocente Pirola, Comte de Ludre, Souvenir d'Elise, Dr. Andry White Lady, Susanne Marie Rodocanachi, Catherine Mermet, Mrs. Jowitt, Kaiserin Augusta Victoria, Captain Hayward, Duchesse de Morny, Marchioness of Downshire, Maman Cochet, Alfred Colomb, Madame Cusin, Général Jacqueminot, Margaret Dickson, Exposition de Brie, The Bride, E. Y. Teas, and La France. Messrs. D. Prior & Sons, Colchester, were second, and Messrs. F. Cant and Co. third.

For twenty-four Teas or Noisettes, seven staged, and there appeared to be no difficulty in awarding honours to the charming collection staged by Mr. Geo. Prince of Oxford, whose stand had amongst the best Comtesse de Nadaillac, Etoile de Lyon, Catherine Mermet, Luciole, Maman Cochet, Cleopatra, and Souvenir d'Elise Vardon. Messrs. F. Cant & Co. were a close second, and Messrs. Prior & Son third. For twelve Teas and Noisettes, Mr. Prince was again first with Comtesse de Nadaillac, Golden Gate, Bridesmaid, Souvenir de S. A. Prince, Maman Cochet, and Madame de Watteville. Mr. B. R. Cant was second, and Messrs. F. Cant & Co. third. Mr. Prince staged some glorious Comtesse de Nadaillac for twelve any yellow Rose, and Messrs. Alex. Dickson & Sons, Newtownards, were second with Kaiserin Augusta Victoria; Mr. John Mattock, Oxford, was third. Messrs. Harkness won with Mrs. J. Laing for twelve any light variety; Mr. Townsend, Worcester, second. In the corresponding class, for dark variety, Mr. B. R. Cant won with Ulrich Brunner, and Messrs. F. Cant and Co. second.

The amateur section was thoroughly well represented, E. B. Lindsell, Esq., Hitchin, taking the lead with twenty-four, distinct—Ulrich Brunner, La France, Mrs. J. Laing, Horace Vernet, Mrs. R. G. S. Crawford, Dr. Andry, Muriel Grahame, and Victor Hugo being handsome. The Rev. J. H. Pemberton, Havering, Essex, was a close follower. Mr. S. P. Budd, Bath, was third; there were six exhibitors. For twelve, distinct, Mr. Lindsell and Rev. J. H. Pemberton were of such excellent merit as to necessitate the judges awarding equal firsts, Mr. Budd taking third position. Three staged eighteen Teas or Noisettes, the first going to Mr. Budd. The Rev. W. H. Jackson, Bedford, and Rev. J. H. Pemberton were second and third respectively. Mr. Lindsell and Mr. Budd were first and second for twelve Teas or Noisettes. The Rev. J. H. Pemberton was seen to splendid advantage in classes for twelve light with Mrs. J. Laing, and for twelve dark with Marie Baumann; Mr. Lindsell following with the same light variety and Ulrich Brunner. For twelve yellow Roses, the Rev. W. H. Jackson won with Madame Hoste.

District grown Roses were fairly well shown, Mr. T. S. Jackson, Tan Yard Farm, Ashley, winning with a very creditable stand, closely followed by Mr. Henry Burgess, Tabley, Knutsford; Mr. Charles Burgess winning with a choice twelve, also with six. Mr. Wilkes, gardener to Miss Lord, Ashton-on-Mersey, showed remarkable taste in his bouquets of Roses, winning both classes. Baskets of Roses were not of sufficient merit to cause any comment.

The Roses arranged for effect were worthy of all praise, Mr. Prince's arrangement for first prize being admirable. Messrs. Mattock and Townsend followed. Mr. Mattock's buttonhole Roses were delightful. The Society's silver medal for the best H.P. Rose in the show went to Messrs. Frank Cant & Co. for Star of Waltham, and Messrs. Prior & Son for the best Tea with Maman Cochet.

Messrs. W. Paul & Son, Waltham Cross, Herts, staged a bank of Roses in variety; Messrs. Laxton Bros. boxes of their celebrated Royal Sovereign, Fillbasket, and Leader Strawberries in superb form; the Misses Hopkins, Knutsford, a miscellaneous collection of herbaceous plants well arranged; and Messrs. Alex. Dickson & Sons a superb collection of single Roses.

The exhibitors were loud in praise of the courtesy and attention given by James Brown, Esq., a well-known amateur, and Messrs. Weathers and Paul, Curator and assistant. The day was perfect, fashion greatly in evidence, and music of the best, making the event a thorough success.

WESTMINSTER.—JULY 12TH.

THERE was an excellent show for visitors on Tuesday last, although only two open classes were provided. The exhibits were very fine, while the amateurs turned out in very strong force, many really good boxes being left out in the cold.

In the premier open class Messrs. D. Prior & Son, Colchester, secured the first place with a very strong box. The varieties were Lady Mary Fitzwilliam, S. M. Rodocanachi, Her Majesty, Helen Keller, Marchioness of Londonderry, Gustave Piganeau, Maman Cochet, Alfred Colomb, Mrs. W. J. Grant, Duke of Eife, Mrs. J. Laing, Horace Vernet, La France, Marie Verdier, Margaret Bourdet, Comtesse de Ludre, Caroline Testout, and Camille Bernardin. Messrs. F. Cant & Co., Colchester, second with good blooms of Mrs. S. Crawford, Her Majesty, Marchioness of Londonderry, and Captain Haywood. Messrs. Paul & Son, Cheshunt, third.

In the class for eighteen Teas or Noisettes, distinct, Messrs. D. Prior and Son repeated their former success, staging in very fine form. The best flowers were Bridesmaid, Maman Cochet, Comtesse de Nadaillac, and Madame Cusin. Mr. G. Prince, Oxford, second with good Maréchal Niel, The Bride, Bridesmaid, and Madame Hoste. Messrs. Paul & Son third.

In the amateur division the competition was most keen, the classes were well filled, and the quality good. For eighteen distinct varieties Mr. O. G. Orpen, Colchester, was placed first with a capital exhibit. The best varieties were Mrs. John Laing, François Michelin, Helen Keller, Souvenir de S. A. Prince, Ulrich Brunner, Mrs. W. J. Grant, and La France. Mr. T. B. Haywood, Reigate, was second with good blooms of François Michelin, Her Majesty, Mrs. J. Laing, Marchioness of Londonderry, and Marie Baumann. Mr. C. J. Grahame, Leatherhead, third.

For twelve distinct varieties Mr. E. Mawley, Berkhamsted, was first with good blooms of Ulrich Brunner, Caroline Testout, Mrs. W. J. Grant, Marquis Litta, and Mrs. J. Laing; Mrs. A. Tate, Leatherhead, second with bright even flowers; Rev. A. Foster-Melliar, Ipswich, third. For six distinct Mr. G. W. Cook, North Finchley, was first with a very good stand; Mr. J. T. Thompson, Bounds Green, second; Mr. P. C. Burnand, Reigate, third.

For nine single trusses, one variety, Mr. T. B. Haywood was first with a grand exhibit of Mrs. J. Laing; Mr. C. J. Grahame was second with the same variety; Mr. O. G. Orpen third with a good team of Kaiserin Augusta Victoria. Mr. G. W. Cook was placed first for six blooms, one variety, with Mrs. J. Laing; Mr. Alfred Tate, Leatherhead, second with the same variety; Mr. E. M. Bethune third.

In the class for eighteen varieties, distinct, Mr. O. G. Orpen, Colchester, was awarded first with a very good stand. The varieties were Cleopatra, Madame Cusin, Souvenir d'Elise Vardon, Maman Cochet (grand), Bridesmaid, Cleopatra, Catherine Mermet, and Medea. Mr. E. M. Bethune, Horsham, was second with good flowers of Cleopatra, Caroline Kuster, Souvenir de Thérèse Levet, and Medea. Rev. A. Foster-Melliar was third.

For twelve varieties, Rev. W. H. Jackson, Bedford, was first with a good even stand; Mr. J. T. Strange, Reading, second; and Mr. E. Mawley third. For six varieties, Miss B. H. Langton, Hendon, secured first

prize, followed by Mr. R. H. Bowyer, Hertford, and Mr. W. J. Thompson in the order named. For six blooms, one variety, Mr. E. M. Bethune was first with good blooms of The Bride; Rev. A. Foster Melliar second with Souvenir d'Elise Vardon; and Mr. F. W. Flight, Winchester, third, with Maman Cochet.

HARDY FLOWERS IN OTHER GARDENS.

DUMFRIES GARDENS.

GARDENS with which one is familiar give us perhaps less enthusiasm, but yield, it may be, even more valuable lessons as to cultivation, as one can see them more frequently and can study them more. A very interesting garden is that of Mr. James Davidson, of Summerville, near Dumfries. Mr. Davidson has of late been paying a good deal of attention to Orchids, but has not neglected his herbaceous and alpine flowers, while adding largely to his glass structures and the plants they contain. The borders are planted with a large collection of the best herbaceous flowers, with a number of good bulbous plants.

Very pleasing at the time of my visit were groups of *Fritillaria armena*, with its small yellow flowers, and the variety *rubra*, which is less effective, with the exterior of the blooms of a brown red colour. *F. aurea* was also exceedingly well grown and healthy, making the writer wish it would only be as successful in his own garden. A nice clump of *Fritillaria imperialis*, with silver-margined foliage, but without a flower, led to the remark that this variety was seldom seen in bloom, but was pretty enough to be grown for its foliage alone. A unique feature for a garden in this district was *Narcissus triandrus albus* in the border with self-sown seedlings in flower. It has been in this position for six or seven years, and shows how peculiar are the ways of plants, and how a troublesome flower may at times be unexpectedly grown with the best results. *Scilopus Bigelowi*, which is more curious than beautiful, also does well in the borders.

Alpine flowers are well represented in rock beds, on the lawn and elsewhere. Encrusted Saxifrages do remarkably well here, and some of the Alpine *Dianthi*, troublesome to grow in most gardens, are very healthy and long-lived at Summerville. The Saxifrages are well chosen, and are quite a pretty feature. Dwarf shrubs are also fairly well represented, among those grown being *Bryanthus erectus*, *Andromeda fastigiata* and *tetragona*, the charming little *Cytisus Ardoini*, and a number of New Zealand *Veronicas*.

What may be done in small gardens in and about towns is illustrated by two in the neighbourhood. One of these belongs to Mr. John Maxwell, Maxwelltown, and is almost surrounded by houses. Here for many years Mr. Maxwell has grown herbaceous and alpine flowers with much perseverance and pleasure. This little garden has also been in a sense a missionary one, as from it many plants have been given to help to form the nucleus of other collections. Daffodils have long been favourites, and some of the latest of the French-raised Phloxes and Delphiniums have of late years been studied with much enjoyment by Mr. Maxwell. Quite a feature of the garden in summer is the wonderful variety of seedling *Campanulas*—crosses principally of *C. carpatia* with *C. Hosti* and other alpine varieties. Some of these are of great beauty, and Mr. Maxwell has often been urged to select and propagate from the best of these. Space will now only allow of a reference to the establishment of *Narcissus corbularia citrina*, the sulphur-yellow Hoop Petticoat, on the rockery here, without any artificial supply of moisture. It flowers annually, and self-sown seedlings come up and bloom as well in due course. This is an interesting garden, and many who have far larger pay it a visit from time to time.

A visit was also paid to the garden of a lady amateur, who was however, engaged in all the toils of removing her flowers to another she had acquired. Fortunately this was the next garden, as it was no light task to remove plants and rockeries, and to replant and re-erect, even at so short a distance. My friend, although she has not lost her old love for Ferns, has of late years developed a strong admiration for the gems of the rock-garden, and grows these with Ferns and herbaceous plants with not only zeal but skill. Among other flowers early *Chrysanthemums* are favourites, and the best of that section are usually grown. When the troubles incidental to removal are overcome the fair owner is likely to be recompensed for her anxiety and care by a full reward in the way of healthy flowers.

It is well-known in the district that one of the most select collections of alpine flowers is that grown at Nithbank, Dumfries, by Mr. James Latimer. It is always a pleasure to see this garden, not only because it contains many good flowers well grown, but also because of the care they receive. New plants are constantly added, propagation is regularly attended to, and care is taken that the wants of the flowers should be provided so far as the garden will allow.

Nowhere have I seen *Cyananthus lobatus* with its exquisite blue flower do better than here, and *Ramondias*, including *R. pyrenaica alba*, are splendidly grown, as also is *Haberlea rhodopensis*. A delightful spot in the garden is formed of a steep bank with pockets of rockwork and planted with alpine shrubs and other plants. In spring and early summer this corner of the garden is of the greatest beauty, and one may travel far before they meet with anything of similar size so charming in its way. Besides the large collection of choice rock plants a small space is devoted to a very select variety of the finest border plants and bulbs.

But one must draw these gleanings to a close. They are more suggestive, perhaps, than exhaustive, although lengthy enough. A few days thus spent in other gardens are of more value than can be readily told.—S. ARNOTT.



WEATHER IN LONDON.—Sandwiched between the hot weather of Thursday and Friday and Tuesday we have had three very cold days. On Sunday it was dull and the wind sharp, and the same conditions prevailed until Monday evening, when it turned much warmer. At the time of going to press on Wednesday it was bright and warm after a light shower in the early morning.

— **NEWCASTLE SHOW.**—The summer show of the old-established Newcastle society opened to-day (Wednesday), and will continue over the two following days. This season the show, which is extensive and diversified, has been visited by a deputation of the Royal Horticultural Society, comprising Sir Trevor Lawrence, Bart., President of the Society; Ph. Crowley, Esq., F.L.S., F.Z.S., Treasurer of the Society; Thos. Statter, Esq., member of Council; Chas. E. Shea, Esq., member of Council; James O'Brien, Esq., V.M.H., Secretary of Orchid Committee; John Wright, Esq., V.M.H., member of Fruit Committee; A. H. Pearson, Esq., member of Fruit Committee; Geo. Yeld, Esq., F.R.H.S., A. Turner, Esq., F.R.H.S., and the Rev. W. Wilks, M.A., Secretary of the Society. As we are going to press our correspondent telegraphs the few particulars given herewith, and a full report of the exhibition will appear in our next issue. In the class for a group of miscellaneous plants Mr. J. McIntyre, gardener to Mrs. Gurney Pease, was easily first with a beautiful arrangement. For a collection of Roses arranged for effect, Messrs. Perkins & Sons, Coventry, were first; Messrs. D. & W. Croll, Dundee, second; and Messrs. Harkness & Son, Bedale, third, the stands in each case being excellent. For seventy-two Roses, twenty-four dissimilar, to be shown in triplets, the first position was taken by Messrs. Harkness & Son, who were followed by Messrs. D. & W. Croll, and G. & W. H. Burch, Peterborough. In the class for forty-eight distinct single trusses of Roses, the prizes went to Messrs. Harkness & Son, R. Mack & Sons, and D. and W. Croll in the order named. For twenty-four bunches of herbaceous flowers, Messrs. J. Cocker & Son, Aberdeen, were first, and Messrs. Harkness & Son, second. The fruit exhibited was splendid, and Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston, secured the leading prizes in most of the chief classes. The R.H.S. deputation granted several awards. They were entertained at a dinner on Tuesday night, and at luncheon after the judging on Wednesday.

— **WOLVERHAMPTON SHOW.**—Our representative at Wolverhampton telegraphs that the show which opened on Tuesday was magnificent, and that Messrs. Dicksons, Ltd., Chester, winning the twenty guinea Hawley cup for the third time, take it as their own property. Details of the several exhibits will appear in our next issue.

— **POTATO HARBINGER.**—This is one of the best of first early Potatoes, and is as certain to become popular as the moon to rise. Two hills, taken at random, have just yielded respectively nineteen and twenty-three tubers, two-thirds of the right eating size. Differing from the majority of the earlies, it is a round. The skin has a faint yellowish tint. This, I suppose, will be enough to set some practical and intelligent people against it, though why on earth a man should worry about the mere colour of what is intended for the action of his digestive apparatus I fail to understand. Harbinger is a very close grower, with rather pale leafage. It is an early of great merit.—W. PEA.

— **BIRMINGHAM GARDENERS' ASSOCIATION.**—The second summer monthly meeting was held on the 4th inst. Mr. W. B. Latham, Curator of the Botanical Gardens, Edgbaston, occupied the chair, and also brought a very interesting collection of cut flowers, including hardy and useful shrubs. Messrs. John Pope & Sons sent a small but interesting collection of cut flowers. A certificate of merit was unanimously awarded to Mr. T. Dodd, gardener to A. Chance, Esq., Edgbaston, for a seedling *Coleus* of his own raising, named Miss Sarsons, with fine bold foliage of a bright yellow colour, slightly mottled with green at the edges. It was considered to be a desirable acquisition, and in the course of their remarks, the Chairman, Messrs. W. Gardiner, Walter Jones, and W. Spinks adverted to the desirability and interesting process of hybridising and raising seedlings, whether of flowers, fruits, or vegetables, especially by the young gardener. The proceedings closed with a report of the financial position of the Association, which was considered to be fairly satisfactory.

— **GARDENING APPOINTMENT.**—Mr. W. Thompson, lately head gardener to C. F. Forster, Esq., Southill, Chester-le-Street, has been appointed superintendent to the Hebburn Parks, Hebburn-on-Tyne.

— **NATIONAL CARNATION AND PICOTEE SOCIETY.**—In consequence of the backwardness of the season the date of the annual show of the above Society has been postponed from July 20th to Wednesday, July 27th, at the Crystal Palace, Sydenham.

— **EAST COWES.**—The fortnightly meeting of the East Cowes Horticultural Society took place on Wednesday last. Mr. G. Groves, C.C., took the chair, and after a few brief remarks called upon Mr. S. Heaton (Horticultural Instructor for the L.W. County Council) to give the third of his series of gardening lectures, the subject being "Dahlias: their History and Cultivation." The subject was followed with much interest, and evoked a profitable discussion, which was entered into by Messrs. Barnes, Sheath, Cooper, Hygate, and the Chairman.

— **ROYAL DEPTFORD FUND.**—We are requested to state that on the occasion of the visit of H.R.H. the Duchess of Albany to Camden Park, in aid of the above fund, the decorations of the tents were entrusted to Messrs. J. Laing & Sons, Forest Hill, who effectively employed groups of Palms and flowers, which extended from the ground to the roof, with graceful hanging baskets of Ferns and flowers between. The Duchess' private tent was festooned with Smilax and miniature bouquets, and her Royal Highness expressed her admiration of the fine display.

— **DEFICIENCY OF RAIN AND SUN IN LONDON.**—Over the greater part of England the close of the first six months finds a large deficiency still existing in the year's rainfall, the aggregate in London being a little over 7½ inches, or only 72 per cent. of the average. The prevalence of cloud last month is proved very conclusively by the sunshine records. At Westminster the total number of hours recorded was only 126, or forty-one less than the average. The duration was, in fact, the smallest observed in June since 1890, and as a comment upon this it appears that the highest temperature recorded last month was also lower than in any June of the past seven years.

— **NATIONAL AMATEUR GARDENERS' ASSOCIATION (LIVERPOOL BRANCH).**—Mr. Drake presided over a capital attendance of members at the monthly meeting, held on Thursday last at the Common Hall, Hackins Hey, Liverpool. An interesting display of cut flowers and plants were brought together, each succeeding meeting showing advance in culture. Mr. Hacking succeeded in winning the first, special, and certificate for cut Roses, Mr. Ardran winning in the other class. Well grown Fuchsias secured Mr. Hoskyn the prize, and Mr. Smythe for Hydrangea. A pretty spray of Nerium oleander and Fern gained Mr. Drake the prize. Mr. Cangle won with Sweet Peas, and Mr. Lunt with Violas, Carnations, and Zonal Pelargoniums. Other good things were shown for points. Mr. Ranger gave a concise and admirable paper on the cultivation of the *Amaryllis* (*Hippeastrum*), which was received with the greatest possible favour.—R. P. R.

— **LAWN MOWING COMPETITION.**—There seems to be an impression abroad that lawn mowing as we used to know and practise it half a century since, and prior to the advent of the lawn mower, was a lost art. Nothing is lost because it is not used or practised, but still there can be no doubt that, whether a lost art or not, lawn mowing with scythes is not one of the common or active garden operations of to-day. It was probably with the view to test the capacity of modern gardeners and labourers to mow a lawn neatly as of old that induced the Countess of Onslow to offer a prize of 20s. for competition, by any person choosing to enter for it, on a tennis lawn in Clandon Park, a few days since. I was invited to both define conditions and judge the work. The space allotted to each was 12 feet by 30, the width requiring two swathes to be laid. I suggested that the time of each competitor should be taken, and the number of times he whetted his scythe, as putting and keeping a good edge to a blade was of much importance. But the primary condition was to be found in excellence of work done, and appearance presented both before and after sweeping. The work took place at 6 A.M., whilst the grass was somewhat moist with dew. There were five competitors. The winner proved to be Mr. H. Blake, Lord Onslow's head gardener, a comparatively young man, who, although he took some two or three minutes longer in his work than the others, yet did it so well that the grass looked as if it had been mown by a good machine. In the other cases the point of the blades had scored more or less, and the heels had not made clean work, leaving the surface ridged. It is rather odd that Mr. Blake, who now seldom has to handle a scythe, should have done so well. None of his pleasure ground men entered.—A. D.

— JUNE WEATHER AT HODSOCK PRIORY.—Mean temperature, 56·7°. Maximum in the screen, 73·6° on the 8th; minimum in the screen, 31·9° on the 15th; minimum on the grass, 25·8° on the 15th. Number of frosts in the shade, one; on the grass, five. Sunshine, 152 hours, or 30 per cent. of the possible duration; difference from average, six hours. Rainfall, 1·33 inch; difference from average, 0·78 inch. Rainy days, thirteen. Maximum fall, 0·45 inch on the 26th. Rainfall from January 1st, 8·57 inches; difference from average, 2·75. The minimum on 15th was the first time the thermometer in the screen fell below 32° in June.—J. MALLENDER.

— JUNE WEATHER AT DOWLAIS.—Rainfall, 2·51 inches. Rain fell on fifteen days. Maximum, 0·57 inch on the 5th. Mean minimum temperature, 69°. Highest reading, 87° on the 11th; mean minimum, 41°; lowest reading, 29° on the 14th, down to 35° on the 1st, 22nd, 25th, and 30th. A very heavy thunderstorm on the 26th. The wind was in the N.W. on fifteen days and in the S.W. on eight days. There were six sunless days. A very wet cold month, with the exception of the 7th to the 17th, inclusive, when we had very cold, strong, drying winds, but no rainfall. Rainfall for the year up to date, 17·61 inches, which fell on 101 days. The average daily sunshine has been three hours six minutes; number of sunless days, sixty-seven. Frost has been registered on seventy days.—WM. MABBOTT, *Gwernilwyn House, Dowlais*.

— THE WEATHER LAST MONTH.—June was very wet after the 20th, and the temperature, both of the air and the earth, was much lower than usual. The wind was in a westerly direction eighteen days. Total rainfall, 1·07 inches. This fell on fourteen days, and is 1·05 inch below the average for the month. The greatest daily fall was 0·21 inch on the 27th. Barometer (corrected and reduced), highest reading, 30·331 inches on the 14th at 9 A.M.; lowest, 29·428 on the 25th at 9 A.M. Thermometers: highest in the shade 72° on the 17th, 18th, 20th, 29th, and 30th; lowest, 28° on the 15th. Mean of daily maxima, 64·33°; mean of daily minima, 45·26°. Mean temperature of the month, 54·79°. Lowest on the grass, 30° on the 15th. Highest in the sun, 135° on the 18th, 20th, and 23rd. Mean temperature of the earth at 3 feet, 54·43°. Total sunshine, 189 hours 20 min. There was one sunless day. The frost on the morning of the 15th cut Potatoes, Kidney Beans, and Strawberry flowers.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham*.

— THE DARLINGTON PARK.—In order to be popular and receive support in keeping with its name a public park should be more attractive than other places in the neighbourhood to which the community in general have access. In this respect the Darlington Park is severely handicapped. Bordered in as it is with a lovely country, with thoroughfares which are in themselves picturesque, the park has much to do to maintain its sovereignty. That it succeeds, however, is clearly proved by the increasing amount of public recognition it each year receives. A much-favoured entrance is that leading from Grange Road. The reason is not difficult to find. It is from this entrance that the full beauty of "The Terrace" is at once presented to the eye. The elevated walks resemble somewhat the aspect of a "three-decker." The lowest is prettily fringed in by the river, and from the top a splendid south-western view is obtainable. This embankment formed the canvas for the Jubilee designs so much admired last year, and a portrait of which elicited her Majesty's approbation. Mr. Morrison, the Curator, has this year changed the design to figures representing "Britannia." When Nature has done her part the floral picture will be an exact fac-simile of the reverse side of a penny piece. The summer bedding is proceeding, and is already in a very promising state. "Geranium" beds thinly dotted through with Fuchsias, others are grouped with Eucalyptus, and others with a groundwork of Harrison's Musk, with Ficus elastica and Dracænas. The lodge, with its clinging greenery, harmonises with the scene. In front of the aviary are examples of ornamental bedding. The wood overlooking the band stand is a very popular retreat. There is ample seating accommodation, and the overspreading Oaks, Beeches, and Sycamores offer protection against the fiercest sun rays. The large border of flowers separating the tennis courts from the bowling green comprises some very fine specimens of Pyrethrums, Pæonies, Veronicas, Centaureas, Lupins, Iris, and Aquilegias. On turning in the direction of the band stand one is immediately struck with the picturesque southern and western walling of Coniferæ, Lime, Oak, Beech, Willow, Ash, and Golden Elder trees. The different shades of green afforded by such an assortment produce a charming effect, none the less enhanced on a Sunday or Thursday evening when the strains of the Volunteer Band are to be heard. Mr. Morrison takes a special pride in what is known as the sub-tropical section.—("North-Eastern Gazette.")

— BEESTON WORKS.—During a recent visit to these well-known works of Messrs. Foster & Pearson, Ltd., I was astonished to observe the amount of seasoned timber that was stored in their yards and drying sheds. It is largely to this use of the best material only that the firm owes its present high reputation. There are splendid stocks of teak, and this hard wood, used in conjunction with their careful system of construction, should insure great durability for the houses. We noticed recent additions in the shape of a fitter's shop, with drills and forges; a lofty joiner's shop, and all departments seemed very busy, arguing well for the prosperity of this old established firm. It is interesting to learn that Messrs. Foster & Pearson have an order in hand for one of their improved span frames for the Royal Botanic Gardens, Sydney, N.S.W., and iron stages for her Majesty at Osborne, I.W.—WANDERER.

— HELIANTHEMUMS.—For a position on a sunny bank, or for planting on the rockery where quick-growing and free-flowering plants are needed, few will give greater satisfaction than a selection of the varieties of *Helianthemum vulgare*. They are not very particular as regards soil so long as it is light, a sandy loam suiting them as well as anything. The individual flowers are short-lived, but the profusion in which they are produced makes up for that deficiency; and as in sunny weather a good display of flowers can be had from May to July, and often later, they are fully entitled to a prominent place. A few of the best varieties are—yellow: *Surrejanum*, *croceum*, *luteo-plenum*, *Yellow Standard*, *citrina*, and *sulphureum*. Red: *rodanthum*, *hyssopifolium multiplex*, *venustum*, *mutabile*, *cupreum*, and *Fireball*; the last named being perhaps the best. Of whites, *hyssopifolium* and *polifolium* are two of the best. If the plants show signs of deteriorating cuttings should be rooted and the old plants thrown away. By planting a dozen or so small plants close together of the same variety a good display can be had the first season.—K.

— GARDENIA ROTHMANI.—Although introduced as long ago as 1774, this plant is still rare. At Kew there are several plants which have been raised from seeds sent home in 1892, and the largest of these may now be seen in flower in the Mexican house. The flowering specimen is 3½ feet in height, with a small branching head. The leaves are about 3 inches long, broadly ovate, thick in texture, and covered, as is also the young wood, with a multitude of soft hairs. The flowers are borne in an upright position from the apices of the side shoots. They are 3 inches in length, tubular at the base, cup-shaped, with spreading petals above. When young the free portions of the petals spread out horizontally to a width of 3 inches, as they become older they are reflexed and fall to the sides of the tube. It is pale yellow in colour, with the inside of the cup freely spotted with purple, and very sweetly scented. Although rarely seen outside botanical gardens, it is well worth the attention of those who have the command of an intermediate house.—W. D.

— RICHMOND ALLOTMENTS SHOW.—The Allotment Holders' Association of Richmond very quickly followed with their annual exhibition upon that of the Horticultural Society, coming a week later only, and held also in the Old Deer Park. On this occasion the Committee resolved to make a town fête of the day, and for that purpose invited the presence of all sorts of amusement caterers, who paid a large sum for the privilege; the result was an enormous attendance, a big gate, and a crowded show tent. The result should greatly stimulate interest in the fine group of allotments the Richmond Corporation has provided, and also enable the Committee to be less dependant upon local contributions to their prize list. The show was again an excellent one, although there was none but allotment-grown exhibits. These, if not quite up to last year's standard, were not behind generally, as not only was the show held rather earlier, but the season is fully a fortnight later. Mr. Pyke, always a leading exhibitor, had the best collection in Messrs. Webb & Sons' class for six vegetables, having capital Turnips, Carrots, Longpod Beans, Turnip rooted Beets, Peas and Potatoes. Mr. Pyke was also first for six vegetables in a second class for six dishes. In the larger class for nine dishes Mr. Richard Keen was first, having good round Beets, Tripoli Onions, Snowball Turnips, Longpod Beans, Alderman Peas, Cauliflowers, Carrots, and Potatoes. Mr. Keen was first in both classes for single dishes of Peas with Alderman, the finest exhibition Pea in commerce. Mr. Hicks had the best four dishes of vegetables. Mr. E. J. Burt, the champion allotment holder for the year, was first with six bunches of flowers. All the classes were well competed in. The Mayor and Mayoress, Mr. and Mrs. A. Chancellor, opened the show, and Mrs. F. A. Dimbleby presented the prizes and certificates awarded by the County Council for allotment culture. Mr. Dean gave the usual address. Mrs. Baldwin, wife of one of the allotment holders, presented each lady with charmingly arranged baskets of flowers, gathered on the allotments.

EDEN HALL.

AT a distance of four miles from the ancient market town of Penrith, and within view of Cross Fell, the highest peak on the Pennine range, stands Eden Hall, in a park of about 300 acres, the seat of Sir Richard G. Musgrave, Bart. The family of Musgrave, of which the Musgraves of Eden Hall are the head, have a direct male descent from one of the companions in arms of the Conqueror, and whose name was inscribed on the Battle Abbey roll. Several members of this family have served their king and country with honour. They were first seated at Scaleby Castle, Cumberland, and afterwards at Hartley Castle, and Musgrave in Westmoreland. Camden, in his "Brittania," says, "The warlike family of Musgrave took their name from the two places of that name in Westmoreland." Thomas de Musgrave was returned as knight of the shire for co. Westmoreland in the parliaments of King Edward III.; and his son, Thomas de Musgrave, Knt., also represented the co. of York in the same reign. This Sir Thomas was summoned by writ, as Baron Musgrave of Hartley Castle, to parliament from 1430 to 1457.

my visit, aglow with large bush Rhododendrons (hybrids) and Ghent Azaleas in great variety. On the western side of the house is the French garden in geometric style, which is usually planted with scented "Geraniums," Ivy-leaved Pelargonium Madame Crousse, tuberous Begonias, Heliotropes, and tricolor Pelargoniums in separate beds. The central bed is raised by stone tiers considerably above the others, and is usually filled with Palms and Phormiums, so as to give a bold effect, as seen from the drawing-room windows. There are other beds on the grass on the southern front, and these are filled with Fuchsias, Ricinus, Phormiums, Zea japonica variegata, Grevillea robusta, Acacia lophantha, and other noble-habited plants.

The flower garden proper is along the southern front of the house, and is bounded by a terrace border whose wall and steps are surmounted by vases at intervals. The beds are all circular in shape. There are four beds whose diameter will be about 16 feet, and are now filled with Hollyhocks, Dahlias, annual and perennial Sunflowers, Foxgloves, Delphiniums, Chilian Beet, large groups of Pentstemons, Gladiolus brenchleyensis and gandavensis hybrids, and German Stocks. Other beds, about twenty-four



FIG. 5. - EDEN HALL.

The estates of Eden Hall were acquired by the marriage of Sir Thomas Musgrave, Knt., of Hartley Castle, with Joan, daughter of Sir William de Stapleton, Knt., of Eden Hall, in the thirty-seventh year of the reign of Henry VI., 1459-60. The present baronet is the twelfth in succession.

The cup, immortalised by Longfellow's verse, "The Luck of Eden Hall," is kept in the case of embossed leather, decorated with scrolls and Vine leaves of fourteenth century workmanship, in the strong room. It is cylindrical in shape, with trumpet mouth, and is of green oriental glass enamelled with flowers, and is only brought out on rare occasions. Tradition has it, that a servant of the family going to St. Cuthbert's well surprised a group of fairies who were drinking from the cup, he snatched it from them, and they exclaimed, "If this cup should break or fall, farewell the luck of Eden Hall."

The mansion (fig. 5) is in the Italian style, and was built in 1821, from designs by Sir Robert Smirke. Approaching from Penrith, we pass through an imposing entrance gate with a lodge in the Doric style. This drive takes us through the pleasure grounds, 45 acres in extent, to the house, a distance of three-quarters of a mile. They were, at the time of

in number, which are probably 7 feet in circumference, are occupied by tuberous Begonias, Calceolaria amplexicaulis, Lobelia cardinalis, Hyacinthus candicans, Tropæolum Vesuvius, Crozy's hybrid Cannas, Nicotianas, and Begonia semperflorens.

The walled in kitchen gardens are in two divisions, with an aggregate of 3 acres. Their general excellent keeping reflects credit to Mr. Smith the head gardener. The wall trees, Apricots, Pears, Plums, Sweet and Morello Cherries were promising an abundant crop, as were half-standard Apples. Peas, Cauliflowers, Onions, salading, and all other crops so necessary in a large establishment, are here in quantity, and were tolerably early for the district. Strawberries in the open quarters were showing vigorous and abundant bloom. The varieties grown are Laxton's Noble, Laxton's Scarlet Queen, Auguste Nicaise, Lord Suffield, Countess, Gunton Park, Keen's Seedling, and President.

The herbaceous borders around the kitchen garden contain a variety of useful flowers which are in great demand. Pæonies are great favourites, and were opening their gorgeous flowers. Gesnerian Tulips were also abundant, as well as double Pyrethrus. Border Carnations are largely grown, and are represented by about 2000 plants layered last summer.

Raby Castle is awarded the premier position on account of its colour. The other varieties grown are Hayes' Scarlet, The Pasha, Miss Ellen Terry, Ketton Rose, Duchess of Fife, Mrs. Muir, Mrs. Reynolds Hole, and Miss Audrey Campbell. Sweet Peas are grown in vast quantity.

The glass houses are all in excellent repair, and are in four ranges, with a total of twenty-two houses. The first range we enter is of noble and imposing aspect, and consists of a large greenhouse, Palm house, and stove. The greenhouse has its roof clothed with large Gloire de Dijon and William Allen Richardson Roses, and on the back wall a large Ivy-leaved Pelargonium Madame Crousse, Plumbago capensis, Rhynchospermum jasminoides, and Camellias. The central stage was occupied by Japanese Maples, Oranges, Myrtles, Phormiums, and a fine specimen of Dasylirion acrotichum. The front part of the house was gay with Zonal Pelargoniums, Spiræa japonica, Lilium Harrisii, with Hydrangeas hortensis and Thomas Hogg.

The Palm house contains some fine specimens, which are used in the house in autumn and winter. They include Kentia Fosteriana, K. Belmoreana, Seaforthia elegans, Chamædorea elegantissima, Phoenix reclinata, P. rupicola, P. tenuis, Rhipis flabelliformis, Latania borbonica, and Euterpe edulis. There are also several large Bamboos. The back wall of the stove is covered with Ferns in turf, while the roof is clothed with Allamandas, Stephanotis, Passiflora princeps, and Clerodendron Balfourianum. The stages were stocked with Dracænas, Pandanus Veithei, Dieffenbachias, Anthuriums, several varieties of Scherzerianum, and Andreanum—both extensively and well grown, as their spathes are in constant request. Eucharis and Pancratiums are also grown in quantity.

Passing into the kitchen garden, we come to a range of span-roofed houses, four in number, in which was a very healthy collection of Malmaison Carnations; the next house had a few Orchids, mostly Cattleyas, and was followed by miscellaneous plants for vases, and Acalyphas, mostly in 6 and 7-inch pots, which are in great favour for room decoration.

At the top of the garden are the fruit houses. Early Peach trees were bearing full crops, and looking remarkably healthy. There are three vineries, each 50 feet long, the early houses being mostly Black Hamburgh. There is a house of Muscat of Alexandria, and the late house contains Lady Downe's, Black Alicante, and Alnwick Seedling, all promising well. The Fig house has healthy young trees of Brown Turkey, White Ischia, and Negro Largo. Bananas are grown well in the large stove. Another range of four span-roofed houses and four pits contains Gardenias, tree Carnations, with structures for Tomatoes and Cucumbers. In the pits were splendid Melons ripening. The variety grown is Sir Richard, raised by Mr. Smith, but not yet in commerce. It is a cross between maximus and Beechwood, and is a good cropper, of fine flavour, and nets well. Most of the fruits were about 4 lbs. in weight, and every plant had no less than four.

Calanthes are grown in quantity, as are Violets. Double Zonal Pelargoniums flowered successionally, while singles are also in request for room decoration, as are the scented-leaved varieties. Chrysanthemums are grown to the number of 700, and were in fine condition. Strawberries in pots are also grown to the number of 2000, and in several of the houses plants were in different stages of fruit. President and Laxton's Scarlet Queen were bearing even crops of large ripe fruit. The latter Mr. Smith thinks highly of for its good travelling properties and exquisite flavour. I had almost forgotten to mention about 100 Campanula pyramidalis, with great promise for the autumn display; also a similar number of Lilium longiflorum, L. speciosum rubrum, and L. speciosum Krætzleri in large pots, and looking extremely healthy. Caladiums are grown well in quantity, and in some of the best varieties.—F. STREET.

STARLINGS AND LEATHER JACKETS.

HAVING followed the trail of "A Briton in Belgium," by the medium of those crisp notes, I would fain add to his closing paragraph, *re* starlings, on page 517. One scarcely dares to hope that such recognition as given to the services of our feathered friend by the Belgian will ever be imitated by the Briton; but it is possible that prejudice may be sufficiently overcome to allow of these willing workers being left to perform their mission in peace. Ere speaking further of my friends as I find them, I would say this note is penned rather to elicit information as to what this sociable creature really is, than to dogmatically assert he is entirely what he seems to be—a jolly good fellow. To this end inquiry was made from the only book of reference to hand, which beyond giving his style and title as *Sternus vulgaris*, is delightfully vague when it says "The common starling is too well known to need any description." "Too well known!" Does that insinuate his character is not irreproachable in the matter of a little surreptitious sampling of our seeds and fruit, or is it that he is, like Cæsar's wife, above suspicion?

Here are some rough statistics of his good qualities. Over a large area of arable land around us, chiefly devoted to a mixture of farming and market gardening, and seldom without some stirring operations going on, leather jackets abound; nay, they must swarm in myriads. The starlings from our loft, whose one aim in life for some weeks appears to be leather jackets, are in continual flight, returning each short journey with from one to three of the grubs for their big-mouthed bairns. Now

one bird makes, say, ten journeys in the hour, and works ten hours a day, thus giving the carrying power of each bird at 200 per diem. This I honestly believe to be a decidedly low estimate. If doubted, I can but add, oh! unbeliever, "come and see," and count for yourself.

Now, I think that the friends who feed on our foes well deserve the hospitality afforded to them in Belgium; the more so, perhaps, that thus housed we should see more, and hear less of them, than in the cockloft, especially if a "morning tub" were attached to the "free box" for *Sternus vulgaris* and his missus, whose very joyousness under the operation in the eavegutters as day breaks is the chief charge, so far, brought against the bird by—THE BIPED.

VEGETABLE GARDEN NOTES.

RADISHES.—Frequent and thin sowing should be adopted when Radishes are required during this month or next for salads and other purposes. The most suitable position to grow them now is in the shade, not entirely from sunshine, but from the fierce midday rays. Water the ground well before sowing if the surface is dry. Cover the seed with fine dry soil, and supply frequent waterings afterwards, which will encourage the production of sweet and succulent Radishes.

RHUBARB AND SEAKALE.—There is not much demand now for Rhubarb, though owing to the frequent heavy rains of late there is a good supply of young succulent stalks. The kitchen garden will be much improved in appearance if the quarters containing Rhubarb and Seakale are kept clean, forking or hoeing all weeds, and removing flower stalks which may have developed.

VEGETABLE MARROWS.—These require a little attention in regulating both main and lateral growths. When fairly started Marrows grow very quickly, and shoots soon intercross. The plants will in most cases, especially those beginning to fruit, be strong enough to receive assistance from liquid manure and copious applications of clear water. During a prolonged dry period watering is very important in light, dry soils, and mulching over the roots round the main stem also proves of service both in conserving moisture and affording nutriment. Adequate moisture and food for the roots, together with unlimited space for the growths, are the principal means of encouraging and maintaining Vegetable Marrows in a fruitful condition.

LEeks.—Leeks ought now to be panted, either in trenches as for Celery or in rows about 15 inches asunder, the plants being placed 8 inches apart. Leeks require the soil to be in good friable condition and liberally manured, otherwise they do not grow so strongly as desirable.

TURNIPS.—Recently sown Turnips suffer from attacks of the Turnip flea. Soot is one of the cheapest and most easily applied remedies. Dust it upon the young seedlings when they are wet with rain or dew. Thin out the rows where the plants are crowded, and hoe among them. Sprinkle a little artificial manure between the rows to promote growth.

CARROTS.—The final thinning ought to be given to the main crop of Carrots. This is a good time to sow a small breadth of Early Horn to produce roots for drawing young. Choose a partially shaded border and sow in rows 10 inches apart.

WINTER GREENS.—Brussels Sprouts, autumn Cauliflowers, Broccoli, and Cabbage ought now to be well established, and more plants may be inserted in vacant places. Winter and spring Broccoli should be placed out without delay, also Savoys, Curled Greens, and Rosette Coleworts. Brussels Sprouts and Broccoli ought to have the most space, 2½ feet apart every way not being too much. Two feet distance will do very well for Cauliflowers, Cabbages, Savoys, and Curled Greens, while Coleworts are planted thickly; a foot apart is usually enough.

LETTUCE AND ENDIVE.—Sow these in rows a foot apart, drawing shallow drills, and sprinkle the seed evenly but thinly, as every one will germinate. This distance between the rows allows of plenty of room for cleaning and culture.

CELERY.—Trim away suckers and useless small basal leaves from the plants, also pull out weeds. Lightly tie the outside leaves together, which gives the plants a neat appearance. This only applies to the earliest rows at present. Plenty of water will be required during dry weather. After a good soaking the most advanced rows may have a little soil chopped down each side and drawn round the plants. This will act as a mulch, conserving the moisture. The latest crop must be planted in well-prepared trenches in single or double rows.

SOWING CABBAGE.—Various dates are found best by different growers for sowing the spring crop of Cabbage, but it is really best not to rely upon one particular date. In cold, late districts, the early part of July is not too soon, making another sowing about the 20th of July. This latter period is a good time for a general sowing in normal districts, following with a second at the end of the month or early in August. For very early districts the early part of August is the most suitable time. Ellam's Dwarf Early, Mein's No. 1, Sutton's Flower of Spring, Enfield Market, and Wheeler's Imperial are leading varieties. Sow the seed broadcast, but not too thickly, choosing an open position, as the seedlings must not become drawn. If the weather is dry, water to assist germination and a vigorous start.

PARSLEY.—This is an important crop which ought to be sown now in preference to any other time of the year. The seedlings stand the winter well, and plenty of Parsley is obtainable throughout the following summer without the plants running to seed, as they invariably do from the early spring sowings. Seed may be sown broadcast or in drills, thinning out the plants, that they may have plenty of room to develop the best and finest foliage.—E. D. S.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL.—JULY 12TH.

THE Drill Hall on Tuesday was very full, partly owing, no doubt, to the Rose show that was held in conjunction with the ordinary meeting of the Committee. Besides Roses, Cattleyas and Ferns were handsome, while Cherries and Strawberries were grandly shown by Messrs. J. Veitch and Sons.

FRUIT COMMITTEE.—Present: Geo. Bunyard, Esq. (in the chair); with Messrs. J. H. Veitch, A. F. Barron, A. Dean, G. Wythes, W. Balderson, F. Q. Lane, and R. Fife.

Messrs. J. Veitch & Sons, Chelsea, exhibited a large collection of Cherries in pots, also numerous trays of the same fruits, with a very comprehensive exhibit of Strawberries. The Cherries contained such varieties as Frogmore Early, Bigarreau, Governor Wood, Elton, Bigarreau de Schreken, and Black Hawk. Strawberries were represented by good trays of Sensation, The Countess, Gunton Park, Waterloo, and Leader. Messrs. J. Veitch & Sons, Chelsea, exhibited a new Strawberry, called Veitch's Prolific, a cross between British Queen and Empress of India. The fruits were exhibited as grown, also a large tray of specimen fruit. The flavour is exquisite, though a little pale in colour; also a fine variety called Exquisite, of excellent flavour. Mr. S. Mortimer, Farnham, exhibited a box of Cucumber called Sensation.

Mr. Owen Thomas, gardener to her Majesty the Queen, Windsor, exhibited a grand display of fruit, arranged in dishes, and composed of Strawberries, Melons, Peaches, Nectarines, and Cherries. The Cherries were very fine samples, such as Royal Duke, Elton, Knight's Early Black, Downton, and Black Eagle. Royal Sovereign (grand), Sensation, Gunton Park, James Veitch, Monarch, Leader, and The Countess were the best Strawberries, though it is unnecessary to make distinctions where all were so good.

Messrs. Laxton Bros., Bedford, sent four new Strawberries—Leader, Mentmore, Seedling, and Fillbasket; the fruits were very fine and good looking. Sir Trevor Lawrence staged a box of fine Peaches, Royal Charlotte, from a tree more than thirty years old. Messrs. H. Cannell & Sons, Swanley, staged a good collection of edible Peas. The most attractive were Duke of Norfolk, Epicure, Lord Mayor, and Ensford Matchless.

Messrs. Carter & Co., High Holborn, had a very comprehensive display of Peas, admirably displayed in baskets. Such varieties as the Duke of Albany, Gradus, Danby Stratagem, Model Telephone, Early Morn, Alderman, Queen, and Model Telegraph were very well grown.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with Messrs. H. B. May, J. Fraser, J. Laing, G. Gordon, G. Stevens, W. Howe, J. F. McLeod, J. Fraser (Kew), J. D. Pawle, C. E. Pearson, J. Walker, C. E. Shea, H. J. Jones, H. J. Cutbush, H. Turner, E. T. Cook, C. Blick, W. Bain, E. Mawley, C. J. Salter, and J. Jennings.

Mr. F. G. Foster, Brockhampton, Havant, exhibited an extensive display of Sweet Peas, with a groundwork of Maidenhair Fern. Very conspicuous were Grey Friar, Princess May, Oriental, Queen Victoria, Black Knight, Salopian, Mars, and Dolly Vardon. Messrs. H. Cannell and Sons, Swanley, also exhibited Sweet Peas in fine form. The most notable varieties were Golden Gate, Aurora, Stanley, Firefly, Ovid, Her Majesty, Princess May, Salopian, and Mars.

Messrs. Carter & Co., High Holborn, exhibited a very fine display of Delphiniums in a variety of colours, with fine spikes, named Wedding Bells, also a large collection of Sweet Peas arranged in bowls with moss and Asparagus. The collection of Peas included all the new and popular varieties.

Messrs. Barr & Sons, Covent Garden, had a very effective exhibit of Iris *Kämpferi* in great variety. The most conspicuous forms were Tachibana, Tosa, Ozaka, Chiyo, Taira, Oda, Tomoye, Okubo, and Aki. Mr. C. Blick, gardener to Martin Smith, Esq., Hayes, exhibited a very fine group of Carnations with a background of Palms, and Maidenhair Ferns for a groundwork. Mrs. Martin Smith, a bright silvery rose: Malmaison Lord Welby, bright red; Calypso, blush; and Rose Cheri were very attractive. Mr. T. Young, gardener to D. Cooper, Esq., Warren Towers, Newmarket, exhibited a good group of Malmaison Carnations. Messrs. J. Hill & Sons, Lower Edmonton, and Mr. H. B. May, Upper Edmonton, had extensive displays of Ferns, the former staging a general collection, while the latter confined himself to Aspleniums.

Messrs. Wm. Paul & Son, Waltham Cross, staged a fine exhibit of Roses in standard form, also as bushes in pots, with boxes containing bunches of decorative forms. White Lady, Madame Abel Chatenay, Empress Alexandra of Russia, Enchantress, Souvenir de Catherine Guillot, Ma Capucine, Madame Charles, and Clara Watson were the most conspicuous.

Messrs. J. Veitch & Sons, Chelsea, sent hardy flowers, in addition to *Spiraea bullata*, *Cytisus nigricans*, and *Rubus canadensis rosea*. Mr. W. Baskett, gardener to Lord Penzance, Eashing Park, Godalming, showed a collection of garden Roses, amongst which were noted several charming varieties. Fragrant, as well as beautiful, were the Sweet Peas from Mr. H. Eckford, Wem. The flowers were of splendid quality, the colours being rich, and the substance fine. Amongst the best were Sadie Burpee, Captivation, Prince of Wales, Mikado, Peach Blossom, and Salopian. Mr. J. Pitt, gardener to F. W. Campion, Esq., Reigate, sent a collection of garden Roses, and included several of the better known varieties.

Twenty-four varieties of *Liliums* comprised the bulk of the exhibit from Messrs. R. Wallace & Co., Colchester. Very handsome were *umbellatum* Cloth of Gold, *Parryi*, *Roczli*, *canadense*, *Thunbergianum* Van Houttei, T. Beauty, and others. *Calochorti* were also sent from

Colchester. The Roses exhibited by Mr. Chas. Turner, Slough, made a handsome display. They were mostly garden or decorative varieties, in splendid condition, and well arranged. Messrs. Paul & Son, Old Nurseries, Cheshunt, also showed bunches of garden Roses, comprising several of the leading varieties. Besides those enumerated there were several other exhibits before the Floral Committee, but lack of space precludes their mention.

SHERWOOD CUP.—Messrs. J. Veitch & Sons, Ltd., Chelsea, again sent a group of hardy annuals and biennials in competition for the Sherwood cup. The exhibit was extensive and diversified.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, De Barri Crawshay, H. Little, H. M. Pollett, A. H. Smee, H. J. Chapman, W. H. Young, W. Cobb, H. Williams, W. H. Protheroe, S. Courtauld, H. Ballantine, E. Hill, J. Douglas, and W. H. White.

Mr. Bristow, gardener to J. W. Temple, Esq., Groombridge, exhibited a bright collection of *Cattleya gigas*, comprised of healthy, well flowered plants (silver Flora medal). Messrs. H. Low & Co., Bush Hill Park, sent a few Orchids, including *Dendrobium Dalhousianum giganteum*, *Cattleyas*, and *Cypripediums*. Other small exhibits of Orchids came from Messrs. W. Bull, W. H. White; and Mr. J. Machar, gardener to H. Hicks, Esq., Great Baddow, Chelmsford, sent a splendidly flowered plant of *Dendrobium Deari* (silver Banksian medal).

MEDALS.—Fruit Committee: Silver-gilt Knightian medal to Mr. Owen Thomas; silver Knightian medal to Messrs. J. Veitch & Sons; silver Banksian medal to Messrs. J. Carter & Co., and bronze Banksian medal to Miss Ridge. Floral Committee: Silver Flora medals to Messrs. D. Cooper, F. G. Foster, C. Turner, and W. Baskett; silver-gilt Banksian medals to Messrs. H. B. May and C. Blick; silver Banksian medals to Messrs. J. Hill & Son, Barr & Sons, H. Cannell & Sons, Paul & Son, J. Carter & Co., F. W. Campion, F. Cant & Co., W. Paul & Son, H. Eckford, and R. Wallace & Co.

CERTIFICATES AND AWARDS OF MERIT.

Asplenium ornatum (H. B. May).—A handsome Fern. The finely divided fronds are very hard, and promise well for standing in rooms (first-class certificate).

Carnation Calypso (C. Blick).—A grand Malmaison of a soft flesh colour. The flower is splendidly built (award of merit).

Carnation Mrs. Martin Smith (C. Blick).—One of the handsomest Malmaisons we have seen. The colour is bright rose (award of merit).

Carnation Nell Gwynne (J. Douglas).—An almost pure white variety, of which the flowers unfortunately lack fragrance (award of merit).

Carnation Sundridge (F. Tapper).—A fine variety; very bright red, approaching scarlet (award of merit).

Cucumber Sensation (S. Mortimer).—A handsome deep green fruit of the best quality. We understand that Messrs. J. Veitch & Sons have secured the stock (first-class certificate).

Picea pungens glauca pendula (Koster & Co.).—A very effective Conifer, of which the name correctly tells the colour and habit (first-class certificate).

Polystichum angulare × *aculeatum* (W. Marshall).—A grand Fern; the fronds are about 3 feet long and freely divided (award of merit).

Rose Edith Turner (C. Turner).—This is a beautiful Hybrid Perpetual. The flower is full and the colour soft peach (award of merit).

Rose Perles des Rouges (W. Paul & Son).—A charming Polyantha variety with rich, deep crimson, profusely borne flowers (award of merit).

Strawberry Veitch's Prolific (J. Veitch & Sons).—This is the result of a cross between British Queen and Empress of India. The flavour is first-class, and the flesh is very firm. The shape is a broad wedge, and it is wonderfully free cropping (first-class certificate).

Sweet Pea Aurora (F. G. Foster).—Blush, delicately flaked carmine (award of merit).

Sweet Pea Golden Gate (F. G. Foster).—Pale heliotrope, suffused with a deep shade of mauve (award of merit).

Sweet Pea Grey Friar (F. G. Foster).—White, veined and suffused purple (award of merit).

BURDOCK AS A VEGETABLE.—We believe a lecture was recently given at Swanley on vegetables not in general use. It would be a good one and interesting, but we are inclined to doubt that the Burdock would be included by the versatile "A. D." The information we have to give comes from America, and is as follows:—What is even regarded as a vile weed can, with a little stretch of imagination, be turned into an ornamental plant or delicious vegetable. This is especially the case with the common Burdock, *Lappa major*. Schoolboys all know it from gathering the burs and compressing them into a ball, they being held together by the curved points of the floral involucre. This is all they know about it. It is difficult to see anything more to be depised in the Burdock leaf than in the leaf of the Rhubarb. It appears that it is largely used in China for food. It is stated that if the stalks be cut down before the flowers expand and then boiled the taste is relished equally with Asparagus. The leaves, when young, are boiled and eaten as we eat Spinach. In Japan it is in universal use. Thousands of acres are devoted to its culture; but in this case the root is the object. It requires deep soil to get the roots to the best advantage. The common name in China is Gobbo—a name, however, which need not replace our common one of Burdock.

HARDY BULBS—A REVIEW.

(Concluded from page 523, last vol.)

BEFORE dealing with Tulips in particular, a glance at a few other, and perhaps less known, bulbous plants may be profitable. Although the genus *Colchicum* is more noticeable in the autumn, we have two good species which flower in spring—namely, *C. montanum* and *C. luteum*. The former is pale purple, and the latter, as its name implies, yellow. The genus *Scilla* certainly deserves consideration. The native species, *S. nutans*, which covers our woodlands with masses of blue, will repay planting as a groundwork for a bed of shrubs, or in masses throughout a wood. *S. amoena* is a pretty species, having small bright blue flowers. The flowers of *S. sibirica* are a little larger, and deep blue, and appear about the middle of February. *S. amoena* flowers in March.

Fritillarias are, perhaps, not so common as they should be. *F. imperialis* makes a noble figure in almost any position. It grows about 3 feet high, and the flowers appear near the top of the leafy stem. A tuft of leaves surmounts the whorl of flowers, which vary in colour from yellow to crimson. *F. meleagris*, the common Fritillary or Snake's Head, looks well growing in a bed amongst dwarf shrubs. Its curious chequered flowers and graceful habit give a pleasing impression.

Leucoium vernum, the Spring Snowflake, is worthy of notice. It grows only 6 inches high, and with its Snowdrop-like flowers forms a pretty object in the rockery. *L. aestivum* is also worth growing. It attains a height of about 1½ foot, and flowers later than *L. vernum*. Its pure white nodding flowers, with their green-streaked segments, render it an attractive plant for the herbaceous border or rockery. *Uvularia grandiflora* has bell-shaped flowers of a pale yellow colour. The plant grows about a foot high, and flowers in April. *Trillium erectum* and *T. grandiflorum* flower early in May. The former is purple and the latter white at first, changing to pink when older.

Tulips, although last on this list, are first for decorative qualities. They now claim the premier place amongst plants for spring bedding, hence a few details regarding them may be worth giving. One advantage with Tulips is that the numerous varieties enable us to have masses of brilliant colours from the middle of April to the end of May. Some minor species flower before and a few after that period, which, therefore, relates only to common decorative sorts.

The earlier flowering forms probably originated in *Tulipa suaveolens*. One of the best of this class is *Keizers Kroon*, a large bed of which makes a grand spectacle. It is deep scarlet, bordered and streaked with gold. Amongst yellows, *Chrysolora* and *Canary Bird* are perhaps the best. The latter is slightly earlier than *Chrysolora*, a duller yellow, and not so compact or handsome. Amongst reds, *Artus* is in the front rank. It is a dark scarlet—large and beautiful. Like *Keizers Kroon*, it lasts well. This year it was at its best on the 3rd of May, and continued to make a show on the 15th, when many other forms had dropped their petals. *Duc Van Thol* and *Joost Van Vondel* highly deserve their reputation. The former is better adapted for forcing than for bedding. The latter is a good bedder; it has splendid flowers—large crimson, with a shade of purple throughout, and sometimes finely streaked with white.

Proserpine has a large rosy purple flower appearing amongst the earliest plants, and was past this year while most of the others were at their best. So was *Tulipa Greigi*. About the 25th of April this species made a dazzling bed with its bright red flame-coloured flowers. *Cottage Maid* is indeed a charming variety, having pink flowers profusely flaked with white. When planted thinly in a bed of *Arabis alpina*, it produces a fine light effect. *Silver Standard* is also a very attractive variety. Its flowers are bright crimson, flushed with pure white.

The later varieties are supposed to have originated with *T. Gesneriana*, which species is very variable in colour. *T. fulgens*, a famous scarlet, is a form of this species, though it differs much in general appearance. Nearly all the later varieties are characterised by their tall stems, ranging from 2 to 2½ feet in height. *T. Gesneriana* itself is usually either a chocolate colour with yellow streaks, or a dark purple with white streaks. *Picotee* is perhaps the daintiest of all in this class. It is well named, for it is pale cream or white, with a narrow band of crimson round the margin, just like a *Picotee*. *Golden Eagle* is a rich yellow, with a reddish tinge on the margin, and often greenish at the tip. *Billetiana* is smaller than the foregoing, but is similar in colour. *T. retroflexa* is one of the best yellows. It also is appropriately named, for the large golden petals are distinctly reflexed, and the margins wavy and slightly curled. It was at its best between the 12th and 16th of May.

T. spathulata has fine large flowers of a bright red colour, with stems sometimes about 2½ feet high. *T. macrospeila* is not so tall as *spathulata*, and is of a bright crimson colour. *Parisian Yellow* is a good late variety. This year the flowers were about their best between the 18th and 23rd of May. *Parisian White* is earlier than its yellow neighbour, and is only about 1 foot high. *Columbus* is a very bright variety. The flowers are compact, a bright clear yellow, and feathered with scarlet. The Parrot Tulips may readily remind us of their avian namesakes. Their large feather-like bright coloured petals with scrolls and blotches of yellow, green, and scarlet make a very showy bed or clump.

We may now be thinking of lifting our bulbs to get the beds ready for their summer garments. If they are not thoroughly ripened, and the foliage is still green, they should be transplanted to a reserve part of the garden. If no other place be available they would do well laid in rows in ashes in a spare part of the yard, where the foliage would have plenty light and air to provide the bulbs with substance for the following season. Any offsets of desirable varieties should be secured and planted in beds till they are large enough to flower, which will take about two years. Tulips may flower well (the same bulbs) for three years in succession.

In conclusion, I would urge that the simpler and more natural arrangement should be practised. A large mound with Daffodils in March, and white Narcissi in April, and a scarlet Tulip breaking the monotony here and there, is one of the best effects we may see. After all the most natural arrangement is the most beautiful; and although the gorgeous style may always remain to make a show and attract the uneducated eye, we can have corners and odd places to clothe in garments, which are lovely though simple, attractive though humble, and charming because natural. —EXCELSIOR.

SLUGS AND THEIR DESTRUCTION.

MR. ABBEY deserves the thanks of the many *Journal* readers for his lengthy reference to these destructive pests, and his experience with gas lime as a slugicide. Mr. Abbey's contributions are always accepted as being eminently practical, and coming from one so closely observant of the ills and evils connected with gardening, as well as the pleasures to be derived therefrom, they cannot be disputed. Following up the writings of your esteemed correspondent, one can scarcely realise that he is in earnest in his judgment when, in his second paragraph (page 484), he says: "The plethora of slugs, in both field and garden, I attribute mainly to slovenly habits in so-called cultivation at the present time." He, however, finds a very practical excuse for the erring ones, myself among the number, in the next sentence, where he says, "Gardeners, I know, in many cases, cannot help it, as they have not half the requisite assistance."

This is a solution to many difficulties in gardening matters at the present day, for with a large-sized garden, and a very restricted staff of labour, it is impossible that the necessary work can be done always in the right manner or at the right time. For the farming element among the *Journal* readers I will offer no defence, but leave those who have that management, in conjunction with the garden, to reply for themselves, if such is necessary. It is contrary to human nature to accept rebuke, even when circumstances deem it needful, without a feeling, more or less pronounced, that it is undeserved, as applied to most of us individually. There is, more often than not, a feeling uppermost in the minds of most conscientious gardeners, whether head or subordinate, that they do their best, and Mr. Abbey, I am sure, would willingly hesitate before giving an unfavourable judgment bearing on the work of others.

Mr. Abbey says the root of the evil is easily traceable to the neglected corners in gardens. I hope he will pardon me in differing from him in that statement; at any rate, it is not true in very many cases. Close and continuous cropping is more favourable to the increase of slugs than the neglected corners, if there are any, for in this continuous routine of sowing and planting of crops the slug is kept well fed. Mr. Abbey strengthens my view when he says:—"The old-fashioned plan of 'knocking the land about' had a great deal to do with the freedom from slugs." This quotation is one for the farmer, and has reference to fallows, but its application to the garden would have the same effect.

Presumably Mr. Abbey does not believe in mild winters favouring the increase of slugs, because of the fact that a slug can only lay a certain number of eggs. If the winter is mild, and favours early hatching, it must tend towards a very large increase as future reproductions occur, the same as in other animal organisms. If this is not true, why is it in one spring there are such numbers and in others so few? I cannot remember a season when the outcry was so universal against the ravages of slugs as this spring. Everyone who has a garden, no matter how clean and well tilled, and has sown seeds or put in plants, complain that they are victimised by the slug.

This is largely attributable to the frequent rains that have been experienced this year, and which destroy the causticity of lime and soot, which, whether fresh or stale, cannot long remain objectionable to slugs when washed into the soil by rain. Dustings of these in mixture or separate put on every day had no effect in checking their ravages among tender seedlings while storms were so frequent.

I hope to put gas lime to the test another winter if it is obtainable from the works and permitted by my employer. Fresh lime from the kiln put on ground during the past winter did not do any appreciable good as a slugicide, although a heavy dressing was given; but the ground and crops would benefit largely by its presence. The object of the lime-dressing was twofold—as a slug destroyer and a purifier of the soil. One is assured, the other not.

Clear lime water is a simple expedient, and the Editor does well in supplementing Mr. Abbey's advice, which will, I have no doubt, be acted upon in many a garden where the plethora of slugs are in evidence. It would be interesting, however, to learn why lime water should be so effectual in their destruction and dry lime should be so variable. I take it that in watering with the clear diluted water all the plot affected need be soaked, and not merely the lines of seedlings. With about 5 acres of land all infested the undertaking would not be a slight one; but isolated parts could be dealt with where more pressing or the crop sown important. —W. S., Wilts.

[Does it take longer to dust a certain area effectively than to water it through a large-rosed can? Mr. Abbey has found another slugicide terribly fatal, as he tells us on page 522, last vol., and a fertiliser at the same time.]

AIRING VINERIES.—The advantage of leaving an inch aperture at the top ventilators of vineries, where the Grapes are swelling freely and commencing to colour, is apparent in the sweeter and more even condition of the atmosphere. Early in the mornings of hot days, when the sun strikes the house, the atmosphere is subject to become overheated.—S.

STRAWBERRIES AND PEAS AT BEDFORD.

It is now very many years since the late Mr. Thomas Laxton of Bedford commenced his excellent work in the improvement of Strawberries and Peas, with other garden products. The results of those labours remain to the present day, for it cannot be disputed that the efforts then made, which extended over such a long series of years, were crowned with success. From the year 1865 until his decease in 1893 all Mr. Laxton's energies were directed towards cross hybridisation with all kinds of vegetables, as well as with Roses and other flowers. If a list were compiled of the products of his crosses it would be of formidable length, and would comprise many plants that are largely grown in our gardens at the present day. The Bedford Strawberries particularly have become world renowned, and it is a matter for regret that to none of the many excellent varieties has his name been attached as a lasting memento of the man to whom horticulturists owe so much.

It is fortunate, indeed, that two sons, Mr. William and Mr. Edward Laxton, were ready and willing to fill the gap created by Mr. Thomas Laxton's death. They had inherited his taste for horticulture, and not a little of his skill in the crossing of flowers and fruits. On them was laid the onus of upholding a great name, and they have so far done much good work and will do more. A week ago a visit was made to Bedford to see the brothers at home, and to examine the Strawberries and Peas for which the firm is famous. It was anticipated that there would be a goodly number of seedling Strawberries to test, but that there would be sufficient to cover 4 acres of ground was not for a moment dreamed. These 4 acres represented something approaching 500 crosses, and the invitation to taste the whole was declined with promptitude. Strawberries are undoubtedly splendid for the health, but when the number of fruits to be partaken of enters into hundreds I consider they should be brought forward in relays with intervals of a day or two. However, some of the fruitarian readers of the *Journal of Horticulture* might be able to render a good account of themselves in a little entertainment of this nature.

To overcome the difficulty we traversed the ground, and tested only those that were most striking in some particular respect. There were several that were decidedly poor, with others that were of high average quality. Unfortunately, where we tested one of excellent flavour it was found to be soft, or perhaps a poor cropper, and could not therefore receive a place of honour, while another, that possessed firm flesh and cropped heavily, was deficient in flavour. But all were not like this—indeed, many were full of promise of future excellence. Several different forms, that have resulted from crosses made between *Vicomtesse Hericart de Thury* and *Monarch*, were of first-rate quality, and of at least one or two of them more will be heard later on. Then *Monarch* and *John Ruskin* have given some fine results, the fruits being firm, bright in colour, and good in quality. The variation of the seedlings from the same parentage is very remarkable, some of the fruits being dark, others light in colour; some early, others late; some good, others inferior. It was noticeable, however, that the progeny from some particular crosses were all poor, while other crosses invariably gave seedlings of promise.

Continuing our progress over the field we remarked fine results from *Latest of All* and *Timbrell*, *Royal Sovereign* and *Commander*, *Sir Charles Napier* and *Noble*, *Waterloo* and *Eleanor*, and others. These have all produced a splendid average return, several being destined for future popularity if they may be judged by their present promise. But one variety raised from a cross between *Royal Sovereign* and *Latest of All* stood out above all the others in this portion of the nursery as an enormous producer of bright scarlet, conical-shaped fruits. It has been named *Fillbasket*, and a truer or more appropriate appellation could not have been found, and it is being put into commerce this season after many years' careful trial. The habit of the plant is dwarf, and the flesh of the fruit, which is of the first quality, is very firm. As a matter of fact this Strawberry combines the several desirable attributes that go to make a variety of the highest rank, and if it does not attain widespread popularity, the writer, for one, will be very much surprised. It is worth noting, too, that while several of its neighbours showed distinct evidences of mildew, *Fillbasket* was quite free. Its free cropping propensities were alike exceptional on one, two, and three-year-old plants.

Trafalgar, from a cross between *Waterloo* and *Eleanor*, is of more than ordinary promise. It is a late variety of very dark colour and high quality, and will probably come to the front. *Mentmore*, which secured an award of merit from the Royal Horticultural Society last year, is a grand variety. The fruits are large, abundantly produced, of attractive colour and excellent flavour. Its parents were *Noble* and *British Queen*. Of standard varieties that were seen in splendid condition there were *Royal Sovereign*, *Leader*, which, popular as it is, has not yet reached its zenith, *Monarch*, *Scarlet Queen*, *Sensation*, *Latest of All*, *Laxton's No. 1*, *British Queen*, thriving remarkably well, and *Captain*, with scores of others. Indeed, it may safely be said that the whole collection of named varieties comprises all that are ever likely to be wanted, for it mounts to over 200 names, from which runners are taken every season. It need scarcely be added that the stock of some is small, while of others it is enormous, ranging from dozens of rarely grown ones into thousands of such as *Royal Sovereign*.

It has been said that upwards of 4 acres of land are devoted to trials of seedlings; but this does not represent the whole of the cultures of Strawberries, which, as a matter of fact, exceed 14 acres in extent. When it is borne in mind that almost all these are grown for the production of runners for sale some slight conception of the number taken each year can be formed, though even the brothers Laxton themselves would not commit themselves to actual figures. The propagation of

plants in small pots is in itself an undertaking, for upwards of 100,000 pots are required for the purpose. This was the actual number in round figures that was despatched to customers last season. In securing these the firm makes it a rule to take them from one-year-old plants, which give, according to the experience of the brothers, the best results. The process of propagation was in full swing when this visit was paid; the piles of pots ready for use were immense. The pots are filled with specially prepared light compost, and are plunged in the ground between the rows, the soil being kept uniformly moist until the young plant, having made good roots, can be detached from its parent and be forwarded to its destination.

Turning now from the luscious Strawberries to the ever-appreciated green Peas, we find ourselves with very little time at disposal, and shall therefore limit the reference to three varieties only. These are *Gradus*,

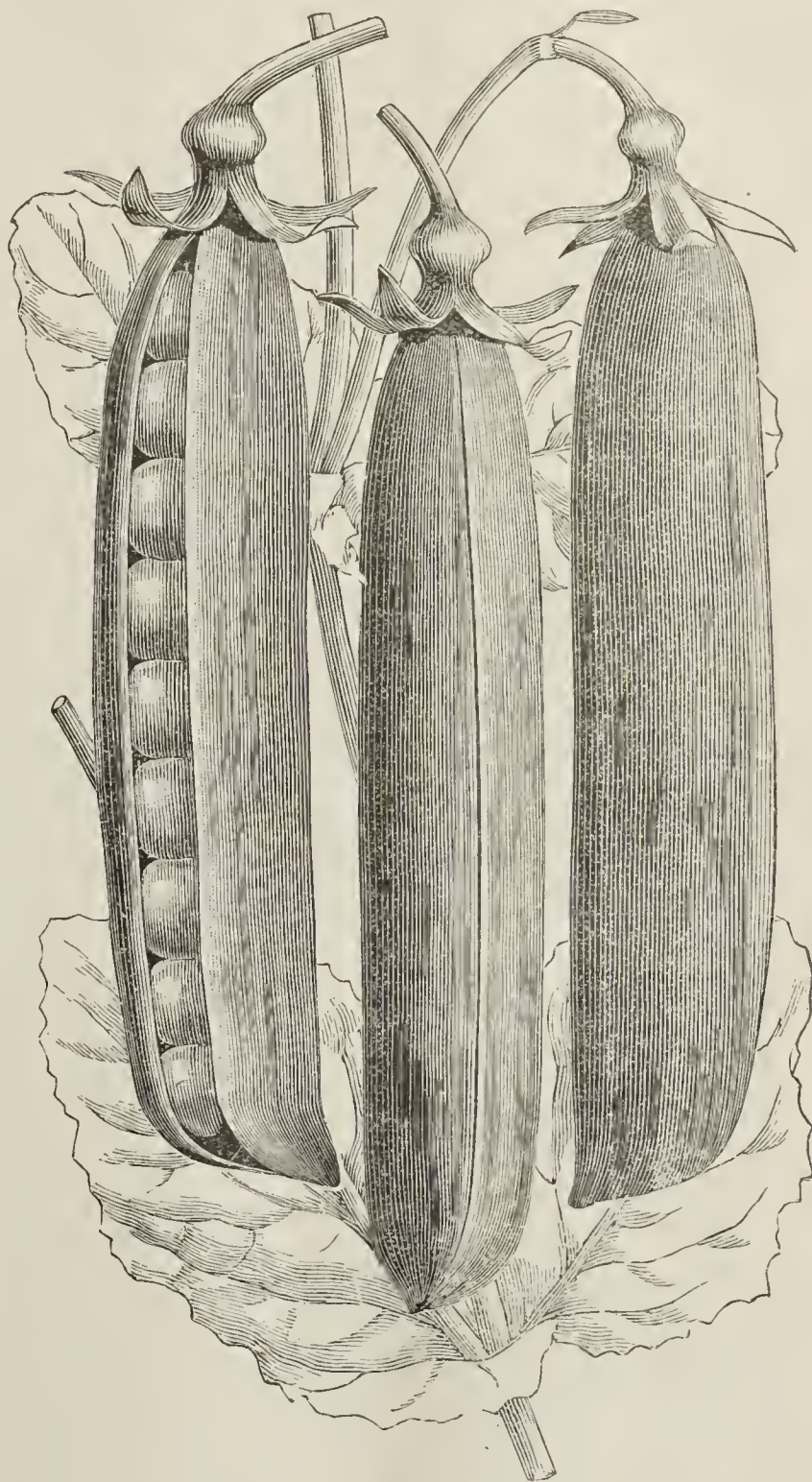


FIG 6.—PEA THOMAS LAXTON.

Alderman, and *Thomas Laxton*. The former is now rapidly becoming a prime favourite as an early variety, as well for its earliness as for its productiveness. *Alderman* is a recognised main crop sort that gives fine pods of handsome peas, and might advantageously be more largely grown. The pick of the trio is, however, *Thomas Laxton*, an early Marrowfat variety that attains to a height of about 3 feet. It is a really grand cropper, and the peas within the pods are of splendid colour and excellent flavour. As may be seen from the woodcut (fig. 6), the pod very closely resembles *Ne Plus Ultra* in shape, but it is considerably larger. The pods become well filled, and the average number of peas grown from a number would be very high. One of the best vegetable growers in the country said of *Thomas Laxton* recently, "It is undoubtedly the best early Marrowfat Pea of its height that I have grown." That Messrs. Laxton Bros. think highly of it is proved by their having named it after their father, who received his initial first-class certificate for *Supreme* so far back as 1868.

From the title at the head of these notes and the foregoing paragraphs

it may be thought that the firm devotes all its energies to Strawberries and Peas. Such, however, is not the case, for at the various nurseries all kinds of flowers, fruits, and vegetables receive attention. Conifers and evergreen and deciduous flowering and foliage shrubs are cultivated in quantity, as are greenhouse and stove plants and flowers. Just now the nurseries are particularly well worth a visit on account of the Strawberries alone, and it is for this reason that almost the whole of the space here utilised has been devoted to them. Those who go may be sure of a pleasant and instructive time with either Mr. William or Mr. Edward Laxton, and if with both, as in my case—well, so much the better for the visitor.—METROPOLITAN.

PEA THOMAS LAXTON.

I AM enclosing a few pods of the above Pea for your inspection, which have grown here for the first time this season. I think most highly of it. I was glad to notice that my opinion was confirmed at Chiswick by the Fruit and Vegetable Committee last week, by the award given it. Though said to be a cross between Gradus and Earliest of All, it much more resembles Ne Plus Ultra in the shape of pod, colour, and flavour, which is of the best. It is one of the earliest Marrowfat Peas I know, and the pods are about double the size of Ne Plus Ultra. With us it proved to be earlier than Gradus, and only a few days behind Earliest of All. This should become popular as an exhibition Pea, especially for early shows, and a general favourite for home and market use.—E. BECKETT, Aldenham House, Elstree.

CHERTSEY, WALTON, AND WEYBRIDGE HORTICULTURAL SOCIETY.—JULY 7TH.

THE thirty-third summer exhibition of this Society was held in the charming grounds at Oatlands Lodge, Weybridge, the residence of Mr. C. Swinfen Eady, Q.C., and was in every way a great success. A representative schedule of prizes had been issued, which induced a large number of exhibitors to compete, thus quite filling the whole of the three tents provided. In one was arranged the several groups of miscellaneous plants, and a pretty effect was produced. In both classes there were three exhibitors, and as all staged creditably the effect was pleasing. In the principal class Mr. J. Lock, gardener to C. Swinfen Eady, Esq., was first with an elaborate arrangement of cork, water, and the choicest of plants. Mr. C. J. Cook, gardener to J. G. Sassoon, Esq., Walton-on-Thames, was a creditable second; and Mr. J. Ashdown, gardener to Major Collis Brown, Broad Oak, Byfleet, third. In the smaller group, Mr. H. Prothero, gardener to Miss Green, Weybridge, was first; Mr. W. C. Pagram, gardener to J. Courtenay, Esq., The Whin, Weybridge, second; and Mr. A. Millican, gardener to H. Cobbett, Esq., Ongar Hill House, Addlestone, third.

Mr. Lock was the premier prizetaker for four stove and greenhouse plants. For a single specimen flowering plant Mr. T. Osman, gardener to J. L. Baker, Esq., Ottershaw Park, Chertsey, won with a grandly blossomed *Anthurium Scherzerianum*, Mr. Lock following with an *Allamanda* in good order. For six foliage plants Mr. Osman won easily with healthy specimens, Mr. Lock following.

Ferns were freely contributed, and in the best of condition. For six exotic kinds Mr. Lock won with medium sized examples, in good health and variety; Mr. Osman second. Hardy Ferns were, as they always are here, a feature. Mr. Millican won for four easily.

Gloxinias were numerous staged, and in really first-class condition. Mr. Stedman, gardener to H. F. Burke, Esq., Weybridge, secured the leading award in a keen competition. Begonias, both double and single, were a feature. Mr. Stedman won for six single as well as double varieties. Mr. Millican won for four. Fuchsias, too, were worthily represented, Mr. Lock winning for four plants. *Streptocarpus* added to the beauty of the show, as shown by Mr. J. Buxton, gardener to J. A. Forster, Esq., Fernlands, Chertsey.

Cut flowers were freely exhibited, Roses especially bright and fresh. For twenty-four, distinct, Mr. Will Taylor, Hampton, Middlesex, was an easy prizewinner with grand blooms. Mr. J. Tomlin, gardener to Mrs. Goldringham, was second. For twelve trebles, distinct, Mr. H. Prothero won premier award. Mr. Jinks, gardener to E. Druce, Esq., The Beeches, Walton, won first place for twelve herbaceous flowers, distinct. Drawing-room ornaments filled with flowers were pleasing, as were the centre stands filled with flowers and fruit for dinner table decoration. Mr. Osman secured the leading place in both classes with creditable exhibits.

Fruit was freely staged and good in condition. Black Grapes were best shown by Mr. Sadler, gardener to Mrs. Turk, Cowley House, Chertsey. Mr. Osman was second. Mr. Lock contributed white Grapes in the best condition, Mr. Osman following. Mr. Jinks had the finest Peaches—Goshawk; Mr. Lock, Nectarines—Dryden. Vegetables were grand. Mr. A. Basile, gardener to C. L. Powell, Esq., Woburn Park, Weybridge, staged an almost faultless collection of eight varieties; Cauliflowers, Tomatoes, Potatoes, were grandly set up. Mr. Osman was second.

Non-competitive exhibits were a distinct feature of the show. Messrs. Barr & Son exhibited a collection of cut herbaceous flowers; J. Laing and Son, Forest Hill, a pleasing group of stove and greenhouse plants; W. Baxter, Woking, Violas; Will Taylor, Roses; Fletcher Bros., Ottershaw, herbaceous plants; and Jackman & Son, Woking, herbaceous flowers and Roses. Mr. T. J. Rawlings, the Secretary, is to be congratulated on such a successful show.

THE YOUNG GARDENERS' DOMAIN.

ERYTHRINA CRISTA-GALLI.

CONSIDERING the easy culture and bright appearance of this noble cool greenhouse plant, I think it is too seldom met with in Scotch greenhouses. Of the leguminous order, it flowers in August and September on the long, well furnished racemes which it annually produces. The large standards of the blossoms are of a bright deep scarlet, and of leathery texture. The foliage is like that of a vigorous Rose.

The plants should be cut hard back, almost level with the pot, and started in a slight heat early in spring. Given a good loamy compost, abundance of water—provided the drainage is perfect—all the sunlight possible, and cool treatment, an imposing plant will be the result. The fact that it simply requires to be stored under the greenhouse stage during winter commends it to amateurs.—W. R. B.

FOLIAGE EFFECTS.

WE admire the floral beauty of our hardy plants, but we may sometimes overlook their foliar beauty. That this deserves notice will be apparent from the appreciation of the sombre tint of the Black or Purple Beech, as well as the splendour of a *Croton* (*Codiaeum*) or *Caladium*. Several hardy plants of shrubby or arboreal habit with leaves of various hues have come under my notice.

Quercus rubra, the Red Oak, is so named because its leaves assume a dark red colour in the autumn. There is a variety of this species named *aurea* with bright yellow leaves in the spring. The Red Oak is very effective in autumn, especially when small trees have been planted about 9 feet apart in a bed with Golden Privet or a silvery-leaved shrub like *Elæagnus argentea* for a groundwork. A well-grown specimen of the golden variety is quite an attractive object on the lawn about the end of May, especially when planted near a sheltering clump of dark green Conifers.

Elæagnus angustifolia attains a height of about 20 feet. It has a graceful habit, and its narrow silvery leaves make it quite worthy of note. *E. glabra variegata* is a shrub reaching about 5 feet high. It has obovate leaves 3 inches long and 1 inch broad. They have a shining surface of a rich green colour with a yellow edging. There are several varieties of *E. pungens* with prettily variegated foliage.

The silver and gold-leaved varieties of the common Holly (*Ilex aquifolium*) are very numerous, and look well near the edge of a shrubbery. As a contrast to these there are the dark leaved varieties of several species. The purple leaved Filbert (*Corylus avellana* var.) is one of the most ornamental with its large dark purple leaves, which resemble those of the well known Purple Beech in colour. A bed of either of these, with *Negundo aceroides variegatum* as a centre specimen or dotted about the bed, has a striking effect.

The Japanese Maples are well known, and the various forms often seen in gardens. Their popularity is well earned. The purple leaved variety of the common Barberry (*Berberis vulgaris*) is worthy of note. The Golden Yew is also useful with its gold-edged leaves and dwarf habit. It is a variety of *Taxus baccata*.

When small plants of the variegated *Euonymus* are planted at intervals round the edge of a bed or clump of green leaved shrubs a pleasing effect is produced. The *Aucuba japonica* is so well known and so commonly used that it needs little else but mentioning.

The graceful habit of some species of Birch commends them as decorative trees. The Willows, too, especially *Salix babylonica*, the common Weeping Willow, are of a graceful habit, and can scarcely be omitted in a garden near the edge of water, or in some damp situation where other trees would not thrive. They are very beautiful in early spring if viewed from a short distance, when their buds have burst and the little clusters of young yellow leaves line the drooping stems.

In the autumn our woods adorn themselves with their brightest garments. The bronze and yellow of the Beeches, the rich brown of the Oaks, and the clear yellow of the Poplars mingled with dark green Conifers combine to form a charming picture—a worthy finale in the annual panorama of Nature.—X. L. C. R.

CEANOTHUS VEITCHIANUS.—The number of shrubs available for the adornment of our gardens which produce blue flowers is small, and of those few the greater number are to be found in the genus *Ceanothus*. The one under notice ranks among the most charming of the family, and when in flower pleases all who see it. Being of Californian origin, it is rather tender, and will not stand safely through a severe winter without protection, except in a few favoured localities. The mildness of the past two winters has given it its chance, and it is now a pretty sight at Kew. It makes a low spreading bush, and the flowers are produced from almost every node on last year's wood. The flowers are bright blue, and are borne in dense cylindrical heads half an inch long on stalks 1 inch in length. The leaves are small with an undulated margin, glossy, and evergreen. It is advisable, on the approach of severe weather in winter, to bury the lower 9 inches of the stem in dry leaves. By this means the base is often saved if the top is killed; and as it grows very quickly, good plants are formed again during summer. If a few plants are kept in pots they will be found very useful during spring for the greenhouse, at the same time insuring the safety of the stock. Cuttings of half-ripened wood root freely if inserted in sandy soil in a cool, close propagating case.—W. D.



: FRUIT FORCING.

Vines.—*In Pots for Early Forcing.*—These should by this time have completed their growth, especially when required for very early work, and must not have more water than will prevent the foliage from becoming limp, exposing fully to sun and air, so as to thoroughly ripen the wood and mature the buds. Keep the Vines free from insects, as it is important that the leaves perform their functions to the last. After the wood becomes brown and hard the Vines may be stood in front of a wall with a south aspect, placing the pots on a board or slates, and securing the canes to the wall to prevent the foliage being damaged by wind.

Earliest Planted-out Vines.—A somewhat drier atmosphere than during the swelling of the crop is required for thoroughly ripening the wood, but it will not be necessary to employ artificial heat to insure the requisite warmth, as that can be effected by regulating the ventilators according to the weather. Avoid a close atmosphere, however, especially at night, which would have the effect of inducing lateral growths that must be restrained, and in the case of vigorous Vines there will be danger, with close stopping, of starting the main buds. Keep the laterals well in hand right along, then there will not be any danger of late growths, and rest can be secured by keeping the house cool and relatively dry. Insects, however, must not be allowed to gain a hold on the foliage, it being important that the main leaves die off naturally, or where these have suffered from red spider other foliage must be retained to utilise the sap, otherwise the pruning buds may start into growth instead of remaining dormant until starting time.

Mixed Houses for Early Forcing.—On account of the liability of Vines in these to attacks of red spider, and the length of time the Grapes must remain on the rods for home use, we do not advise large houses with a number of varieties of Vines, but structures only of such size as will admit of a supply of Grapes for the establishment for a period of not more than six weeks, and the shorter the time the better for the Vines. When several varieties are grown in one house, and ripen their fruit at different times, the warm air essential to the ripening of early kinds will cause red spider to increase on the foliage of Muscats and similar later ripening sorts before they are ripe. This is most disastrous to the current crop, and also to the next year's prospect of Grapes. Instead of a mixed collection that would supply Grapes from May to August inclusive, it is advisable to have the several varieties that ripen about the same time in a compartment by themselves, so that instead of one large house two or three compartments should be provided, so that the respective kinds may have secured to them their essential conditions. In case of an attack of red spider, paint the hot-water pipes with a mixture of skim milk and sulphur, heating them to 190°, and keep at that for about an hour, having the house closed, after which allow a fall to the ordinary heat. Care must be taken not to overdo the vaporisation with the sulphur, or it will spoil such tender-skinned varieties as Frontignans and Muscats, it sometimes causing brown spots on the skin of black Grapes, and imparts a purple hue to white Grapes, therefore sulphur applied to heated surfaces must be done very carefully.

Muscats Ripening.—When swelling, and in the early stages of finishing their fruit, Muscats require liberal supplies of water and nourishment. They can hardly be overdone with water at the roots after the leaves are full-sized until the Grapes are well advanced in ripening, the border having thorough drainage, and the supplies not being given until the soil is becoming rather dry. This is imperative to avoid a sodden condition of the border, still attend well to the watering of inside borders; outside also in dry weather. Too much atmospheric moisture is not good for Muscats at any time, and it proves fatal when ripening, causing the berries to "spot;" therefore, when the Grapes are nearly changing colour keep a genial warmth in the pipes, and admit a little air constantly to prevent the deposition of moisture on the berries, surfacing the borders inside, after a good supply of water, with a few inches thickness of dry material. Remember, Muscats require time and assistance from fire heat, so as to secure a night temperature of 70° to 75°, 85° to 90° by day, with abundance of air. They also require a rather dry warm atmosphere, for under no other conditions will they attain to that rich golden hue characteristic of their unapproachable vinous flavour.

Cucumbers.—If not already done, a few seeds may now be sown for late summer and early autumn produce. The plants from this sowing will afford finer fruit in late summer than those that have been bearing for a considerable time, as old plants generally produce knobbed or seeded fruits towards the end of the season, and are not so handsome as straight, crisp, seedless specimens. The plants will be fit to plant out in about a month, and succeed admirably in frames with a gentle bottom heat, such as may be afforded by the least reduced materials from spent hotbeds, mixed with a little fresh, but not raw, stable litter. It is desirable to have the bed 2 or 3 feet high, so that, after settling, linings can be given in late summer and early autumn, so as to have fruit up to a late period.

Plants in Full Bearing.—Give the needful attention in thinning exhausted growths, removing bad leaves, stopping, tying, and regulating, so as to keep up a succession of bearing wood. Add a little fresh lumpy soil to the surface of the bed from time to time, and a light mulching of scalded sheep droppings, horse knobs, or cow manure. Syringe at closing time, or so soon as safe in the afternoon, and maintain a good moisture all day by damping the floors and walls in the morning, noon, and early in the evening. After a few days of dull moist weather it is desirable to shade, and keep the house rather close on the return of bright weather. Supply liquid manure copiously once or twice a week, but it will not benefit plants badly rooted or sparse in foliage. What such need is fresh soil or surface dressings of lumpy material. Close early, say at 85°, and so as to advance to 90°, 95°, or 100°, and only employ fire heat to prevent the temperature falling below 60° at night, and maintain 70° to 75° by day.

THE KITCHEN GARDEN.

Late Carrots.—Tender young Carrots, whenever forthcoming, are appreciated, and without much trouble they can be had nearly, or quite, all the year round. A July sowing ought to play an important part in the maintenance of this supply. A warm or moderately warm border, recently cleared of early Potatoes, would be a good position for this crop. Make the ground as fine as possible, adding and mixing in leaf soil and common sand if the soil is naturally of a clayey binding nature. There should be no waiting for rain, and if the ground is hard, dry, and lumpy, give it a good watering, and a short time afterwards break down the lumps with a fork, and rake. Draw shallow drills 8 inches to 10 inches apart, and if the soil is still somewhat dry moisten the drills prior to sowing the seed. Surplus seed of any variety of Carrot may be sown now, but the Horn or stump-rooted sorts are to be preferred.

Celeriac.—This crop forms a good succession to early Cauliflowers. For the latter the ground is usually heavily manured, and unless very hard through trampling all the preparation needed for Celeriac is clearing off rubbish and a deep hoeing. It is not a rank top-growth that is desired, but rather the formation of large Turnip-like roots, and a firm medium is the most conducive to this end. There ought to be no undue delay in planting, waiting for a rain often ending in the plants becoming drawn and spoilt. Should the ground be dry, open shallow wide drills 18 inches apart, and well water these, putting out the Celeriac an hour or two later. Plant firmly about 15 inches apart in the row. Water after planting, and keep the plants constantly moist at the roots during the next month or six weeks.

Endive.—There should be no further delay in sowing the maincrop Endive. The green curled varieties are suitable for affording early supplies of well-blanching hearts, but the Improved Broad-leaved Batavian ought to be the most extensively grown. A light, free-working, well-manured soil produces the best Endive, and the seed may be sown where the reserved plants are to heart in. Abundance of plants and early well-blanching hearts may be had with little trouble by sowing the seed in shallow drills drawn 6 inches apart, moistening these if at all dry prior to distributing the seed. Plants should eventually be left 6 inches apart, where they will grow strongly, and, pressing against each other, be self-blanching.

Latest Peas.—The practice of sowing seed of the best of the early varieties of Peas directly it is ripe is frequently attended by good results. This season the crops will be a little late in maturing, but old seed may be substituted, the only difference being that this does not germinate so strongly as new. The spaces between trenches intended for or already occupied by late Celery answer well, but in cold districts it is advisable to locate beds of dwarf late Peas where they can be protected with mats whenever necessary in the autumn. Have the drills not less than 3 inches deep, and thoroughly soak these with water or liquid manure before sowing the seed.

Winter Spinach.—A first sowing ought to be made about the middle of July. In some districts deferring sowing till August may result in a partial failure, owing to the plants not being sufficiently advanced in growth before frosty weather sets in, while if the July sowing is too early for a winter crop, it may prove serviceable in the autumn. Winter Spinach should have well-manured freely-worked ground. Draw drills 1 foot apart, water these if dry, sow the seed thinly, and cover with fine soil.

Tomatoes.—Those against sunny walls and fences ought ere this to have one or more bunches of fruit set on them, and should be assisted to continue in progress as much as possible. If the fruit fails to set, the flowers dropping prematurely, defective root action, and dryness of soil are the most probable causes. Not till the plants have rooted into the ground, away from the walls or fences, ought the watering pot to be suspended, and if the season remain hot and dry, plants in the open air should receive the same treatment as those planted in borders under glass. Liquid manure would benefit heavily cropped plants, and all should have a mulching of strawy manure. Either confine the plants to a single stem, or lay in two or more leaders so as to thinly cover all available wall or fence space. Remove superfluous side shoots, and top the plants after three or four clusters of fruit are set. Plants grown in the open must also be closely attended to.

Turnips.—It is not always safe to wait for ground to be cleared of early and second early Potatoes before sowing the main crop Turnips. If the winter sets in early and severely late sown crops do not attain to a profitable state, and it is well therefore to make a sowing now and another a fortnight or three weeks hence, or as soon as the ground can

be got ready. If the ground was well manured for the preceding crop no more is required for the Turnips, but they make a better start and are less affected by insect pests if artificial manure is applied or the drills are soaked with liquid manure. Make the ground as fine as possible to a good depth, draw shallow drills 15 inches apart, moisten these, if necessary, and sow the seed thinly.

THE BEE-KEEPER.

REARING QUEENS—COMMENCING OPERATIONS.

THE middle of a fine day is the best time to commence operations, as the majority of the old bees will be on the wing, and it will then be much easier to find the queen. Remove the comb on which the queen is found, and all the adhering bees, into an empty hive; then close up with a couple of frames of fully drawn-out combs on each side. Shake the bees off another comb into this hive, and there will be sufficient to keep the brood warm. Cover with plenty of warm material, remove the hive to a new position, and all will go on well.

Returning to the original stock, divide the remaining frames into two or more nucleus hives, dividing the bees equally between them. Close the division board, and place them on each side of where the parent stock stood; the flying bees will then not all return to one hive. The bees, finding themselves queenless, will at once start queen cells, and young virgin queens will be ready to emerge from their cell on the sixteenth day.

Before this takes place each frame should be carefully examined, and any surplus queen cells removed. If required for other colonies the cells must be cut out, with a piece of comb attached, and inserted in another comb in its natural position, pointing downwards. Remove the queen from the stock to which the cell is introduced; the young queen will then be allowed to hatch, and she will in due course become fertilised. If there are sufficient queen cells the old queen may be removed from the nuclei in which she was placed when dividing the stock, and a cell given in her place. Much valuable time will then be saved.

HANDLING BEES.

The cold nights and sunless days experienced during the past three weeks have prevented the bees from adding to their stores as much as bee-keepers would have wished. There have been a few bright spells of sunshine, of which the bees made the most, but as fine weather was on two or three occasions followed by high winds the bees were unable to leave the neighbourhood of their hives, and were (as a correspondent remarks) "perfect savages, attacking everyone who ventured near them."

In the middle of the day, when a high temperature prevails, and if the sun is shining brightly so much the better, the bees may be handled with impunity, and if the operator is steady in his movements there will be no danger of being stung. It is the nervous bee-keeper who constantly runs the risk of this calamity, by the manner in which he handles the combs whilst lifting them, or placing them back in the hive. The bees will resent rough treatment, such as dropping the frame into the hive with a jerk, much more readily than some people imagine.

Gloves should not be worn at any time, as they only irritate the bees, and if the right time is chosen there is really little danger of being stung. It is, however, advisable to wear a veil, as at no time is it pleasant to be stung on the face. Seasoned bee-keepers have the advantage over their less fortunate brethren, as from the numerous stings they receive they become inoculated, and thus they have no dread. They often, we fear, become careless, and thus many bees lose their lives through their propensity for stinging, owing to the operators being sting-proof.—AN ENGLISH BEE-KEEPER.

GRAFTING PLUMS ON PEACH TREES.—Mr. S. W. Chambers writes in the "American Cultivator": "Many Plum orchards thrive well until nearly the fruiting season. Then the trees, when the extra drain of bearing fruit is imposed upon them, begin to weaken, and show signs of defects. The grafted trees show binding and splitting at the junction of the bud and stock, and various Plum diseases develop. The bark in places dies and rots off, and in time this decay penetrates to the heart of the tree. The best stock for grafting on has been a matter of grave concern for some time. The Myrobalan group of stocks was for some time proclaimed as the best; then the Mariana stocks succeeded them in popularity. But with some of our newer choice Plums, better results are obtained by root-grafting on the Peach. One-year Peach seedlings root-grafted with choice Plum will invariably produce Plum trees that, in a few years, will be self-supporting on their own roots. In this union all suckers must be kept down. The stocks that will show no tendency to send up suckers will grow in popularity, and will in time be the ideal ones for commercial orchards. At present we have no ideal Plum stocks."



TO CORRESPONDENTS

All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," **8, Rose Hill Road, Wandsworth, S.W.**, and **NOT** to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Peach Diseased (R. M. D.).—The fruit is infested by mildew, now in the final stage, or rather passing into it. The fruits are spoiled, being quite browned in the skin where the fungus has acted, and they usually crack when ripening. The best remedy is flowers of sulphur dusted on the fruits or tree, or a solution of liver of sulphur (sulphide of potassium) $\frac{1}{2}$ oz. to a gallon of water, syringed on the tree in the late afternoon. The tree should be treated early another season with flowers of sulphur as a preventive.

The Chiswick Gathering (A Fellow).—We are glad you take an interest in what you term the "activities" of the R.H.S. If you did not you would scarcely have your name inscribed on the roll of fellowship. The late assemblage of members of committees and Council in the gardens was, we apprehend, regarded as private and social, rather than a public function, and therefore Press tickets were not issued. That is the reason the meeting was not generally "reported," though, of course, any person who happened to be there was at liberty to make reference to it if he desired to do so, as in the case of any other gathering not of a confidential nature.

Asphalt for Garden Paths (W. J. P.).—The materials you name—"a lot of cinders, also some old gravel and other stones"—will answer admirably, passing all through a $\frac{1}{4}$ inch sieve. The material must be quite dry, and the gas tar boiled, using this boiling-hot on the articles well mixed together, forming a rather stiffish mortar-like consistence. We have not kept any account of the quantity of tar required per quantity of material or per area, but an ordinary 9-gallon copper three parts full or rather less, as some allowance must be made for boiling, sufficed for about four barrowloads of the material, and that covered 8 square yards of path, or, say, $\frac{1}{2}$ gallon of tar per square yard. There is, however, a great difference in the material and the foundation on which the prepared article is laid. We have made many of the substances you mention, and they are as good as ever, though made many years ago. Indeed, such wear better than cinder asphalt paths.

Vine Roots Cankered (W. S.).—The Muscat roots are dead, and the outer bark has been eaten away in places by some absent pest. The gnawing apparently is the work of a grub, such as that of wireworm, which sometimes proves very injurious to Vines, especially the fleshy roots of Muscats, the pest preferring these to other varieties, and the grubs of the Vine weevil also render Vines very sickly in appearance. As you have captured numerous wireworm, we should consider them the cause, for had it been the Vine weevil they would before this have appeared and eaten the leaves of the Vines or other plants in the beetle stage. There is no better plan for getting rid of wireworm than the old-fashioned Carrot trap, which you have rightly used. Unfortunately the destruction of the pests will not restore the mischief they have done, the Vine now showing the results of their devastatory work. We should make sure of the pests being cleared out by continuing the trapping, and then supply a top-dressing of some approved fertiliser, such as bone superphosphate, dry and crumbling, five parts; nitrate of potash, finely powdered, three parts; sulphate of magnesia, also finely powdered, one part; and ground gypsum, one part, mixed, using a quarter pound per square yard, and pointing in very lightly. This will encourage root formation, and it may be still further encouraged by removing some of the old soil about the stem of the Vine and supplying fresh turfy loam, preferably scalded to free it from any contained pests. With fresh roots from the collar and other sound parts of the root system, the Vine may be expected to make good progress another year.

Seedling Pelargonium (C. T.).—From the small specimen with which you favoured us it is difficult to form an opinion. We should say, however, that the variety possesses merits which make it worthy of retention for home use. You may readily ascertain its commercial value by submitting good examples to some reputable nurseryman.

Grapes Scalded (Y. B. A. Z.).—Your Grapes represent excellent specimens of what is known as scalding. It is not an organic disease, and not contagious, but the result in most cases of a too low night temperature and too late morning ventilation. You will find an article on the subject in the present issue (page 19), written by a gardener of great experience, who can scald a house of Grapes when he likes when the nights are very cold and the mornings very bright.

Preserving French Beans (O. F.).—The pods should be such as are usually gathered for use, quite tender and perfectly sound, also dry, and then packed in the jars, whole as gathered, with the salt, not cut up, and with the seeds in them. The pods will then come out fresh, and be in excellent condition for use in the winter, they being soaked for a time in water to take out some of the salt.

Tying Endive and Lettuce (Idem).—Perhaps you tie the plants up too soon, or when wet, as they "damp off or wither away." We have not found any difficulty during many years' experience. The plants should be about three-parts grown, or so large as to allow of the outer leaves being brought together over the heart or centre of the plants and evenly all round, so as to meet above, and there tied about two-thirds up the plant or one-third from the top, not drawing too tightly, yet so as to keep close, without crushing the leaves. If this be done when the plants are quite dry in the leaves, they will form blanched centres in about a fortnight, and be very crisp and excellent. If tied too soon and wet they decay as you describe, also when left too long and too tightly tied. With a little experience you will soon learn exactly how to blanch, and then enjoy both Endive and Lettuce. The former takes a longer time than the latter, as Endive is tied when the weather is much colder, but judgment must be exercised in both cases.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (K. W. G.).—*Genista hispanica*, *Onopordon elatum*. (A. B.).—1, *Epidendrum vitellinum*; 2 and 3, *Odontoglossum citrosum*. (G. W. C.).—*Hieracium villosum*; the *Mitraria* is very charming. (R. M. D.).—Through misdirection of the parcel your specimens on delivery were dead; please read the instructions given at the head of this column, and then send again. (C. T.).—1, *Helianthemum vars.*; 2, *Linum narbonense*; 3, *Veronica incana*; 4, *V. subsessilis*; 5, *Fagus asplenifolium*; 6, probably *Acer circinatum*. (J. T. S.).—*Illicium floridanum*.

COVENT GARDEN MARKET.—JULY 13TH.

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6 0	to 36 0	Heliotrope, doz. ...	5 0	to 6 0
Aspidistra, doz. ...	18 0	36 0	Hydrangea, doz. ...	8 0	10 0
Aspidistra, specimen ...	5 0	10 6	Lilium Harrisii, doz. ...	12 0	18 0
Calceolaria, doz. ...	6 0	8 0	Lobelia, doz. ...	3 0	4 0
Coleus, doz. ...	4 0	6 0	Lycopodiums, doz. ...	3 0	4 0
Dracæna, var., doz. ...	12 0	30 0	Marguerite Daisy, doz. ...	6 0	9 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	4 0	6 0
Erica various, doz. ...	12 0	24 0	Musk, doz. ...	2 0	6 0
Euonymus, var., doz. ...	6 0	18 0	Myrtles, doz. ...	6 0	9 0
Evergreens, var., doz. ...	4 0	18 0	Palms, in var., each ...	1 0	15 0
Ferns, var., doz. ...	4 0	18 0	„ specimens ...	21 0	63 0
„ small, 100 ...	4 0	8 0	Pelargoniums, scarlet, doz. ...	4 0	6 0
Ficus elastica, each ...	1 0	7 0	„ „ ...	8 0	12 0
Foliage plants, var., each ...	1 0	5 0	Rhodanthe, doz. ...	4 0	6 0
Fuchsia ...	5 0	8 0			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blooms ...	3 0	to 4 0	Mignonette, doz. bnchs. ...	2 0	to 4 0
Asparagus, Fern, bunch...	2 0	3 0	Myosotis, doz. bnchs. ...	1 0	2 0
Bouvardias, bunch ...	0 6	to 0 9	Orchids, var., doz. blooms	1 6	9 0
Carnations, 12 blooms ...	1 0	3 0	Pelargoniums, doz. bnchs.	4 0	6 0
Eucharis, doz. ...	3 0	4 0	Polyanthus, doz. bnchs....	1 0	1 6
Gardenias, doz. ...	1 0	4 0	Pyrethrum, doz. bnchs. ...	1 0	1 3
Geranium, scarlet, doz.			Roses (indoor), doz....	0 6	1 6
bnchs. ...	0 0	6 0	„ Red, doz. ...	0 6	1 0
Iris, doz. bnchs. ...	4 0	6 0	„ Tea, white, doz. ...	1 0	2 0
Lilac (French), bunch ...	3 6	4 0	„ Yellow, doz. (Perles)	1 0	2 0
Lilium longiflorum, 12 blms	3 0	4 0	„ Safrano(English) doz.	1 0	2 0
Lily of the Valley, 12sprays	1 6	2 0	„ Pink, doz. ...	1 6	3 0
Maidenhair Fern, doz.			„ Moss, per bunch ...	0 9	1 0
bnchs. ...	4 0	8 0	Smilax, bunch ...	2 0	3 0
Marguerites, doz. bnchs.	1 6	2 6	Sweet Peas, doz. bnchs. ...	1 6	3 0

FRUIT.

				s. d.	s. d.					s. d.	s. d.						
Apples, $\frac{1}{2}$ sieve	0	0	to	0	0	Grapes, lb....	...	...	...	1	6	to	3	0
Cobs	0	0		0	0	Lemons, case	...	...	...	11	0		14	0
Filberts, 100 lbs.	0	0		0	0	St. Michael's	Pines, each	...	...	2	6		5	0
Gooseberries, $\frac{1}{2}$ sieve	1	6		2	0	Strawberries	...	...	...	1	6		3	0

VEGETABLES.

		s. d.	s. d.			s. d.	s. d.
Asparagus, per 100	...	0 0	to 0 0	Mustard and Cress, punnet	0 2	to 0 4	
Beans, $\frac{1}{2}$ sieve	...	0 0	0 0	Onions, bushel	...	3 6	4 0
Beet, Red, doz.	...	1 0	0 0	Parsley, doz. bnchs.	...	2 0	3 0
Carrots, bunch	...	0 3	0 4	Parsnips, doz.	...	1 0	0 0
Cauliflowers, doz.	...	2 0	3 0	Potatoes, cwt.	...	2 0	4 0
Celery, bundle	...	1 0	0 0	Salsafy, bundle	...	1 0	0 0
Coleworts, doz. bnchs.	...	2 0	4 0	Scorzonera, bundle	...	1 6	0 0
Cucumbers	...	0 4	0 8	Seakale, basket	...	1 6	1 0
Endive, doz.	...	1 3	1 6	Shallots, lb.	...	0 3	0 0
Herbs, bunch	...	0 3	0 0	Spinach, pad	...	0 0	0 0
Leeks, bunch	...	0 2	0 0	Sprouts, $\frac{1}{2}$ sieve	...	1 6	1 9
Lettuce, doz.	...	1 3	0 0	Tomatoes, lb.	...	0 4	0 9
Mushrooms, lb.	...	0 6	8	Turnips, bunch	...	0 3	0 4



SPRING DUCKLING.

YES, very early spring duckling only fit for the tables of the rich or great, quite beyond the means of everyday people like ourselves. We wait for our share of duck till midsummer comes, with new Peas and Potatoes of our own growing, the most excellent accompaniments to our fragrant "roast." In London, and for "Society" generally, there is always a demand for fresh variety in food. Living nowadays is very luxurious—good for those who can produce the luxuries—and the more out of season a thing may be with some sections of the population the more it becomes a necessity. Our game season begins with August 12th, and ends legitimately with February 1st. At least a fortnight must be added to that time to finish off what game might be hanging in the larders. Then something seems to be wanted as a second savoury course; indeed, it is quite possible to tire of pheasant before the appointed "close" season. Partridge is never really good or an epicure's dish after November, and the caterer for great men's banquets hails with pleasure the little duckling (a home product), which is about worth its weight in silver. We should like to give a word of warning before writing another line.

No process, no industry can be learned from paper alone, and the longer we live the more certain we are of the great need of apprenticeship. People nowadays like to learn by steam, or rather by electricity; they think everything can be compressed into an essay or lecture. They forget that the information contained in the essay or paper represents the life experience of the writer. Practice and theory must go hand in hand, and there are a great many qualifications necessary in the composition of a first-class workman. How often we find father succeeded by son for generations! Surely the accumulated experience must be of immense value, whatever their calling may be. Individual tastes and habits must be consulted, and the man who hates the quiet monotony of a country life is no more fitted for the avocations thereof than is a poor dazed country lad when tossed into the whirl of London life.

To our mind there is nothing so full of unexpected disappointments as stock raising. Yes, we mean this! Be it the noble hunter, the majestic shire, the sleek shorthorn, the woolly mothers of the flock, and even to the downy yellow ducks and chickens. But again, these losses and disappointments may be greatly minimised by watchfulness and care, and by the constant guarding of all vulnerable parts. "Be always prepared for the unexpected" is a good motto, and be ever looking for danger, even from the most unlikely quarters. So many people have thought they have found an El Dorado in the rearing of poultry, but we think we do not exaggerate when we suggest that to one success there will be at least 100 failures. Thus

anyone anxious to really study the system of duckling rearing should be prepared to follow out the workings from beginning to end on the spot. That spot in this case is the neighbourhood of Leighton Buzzard, on the borders of Bedford and Bucks. As Aylesbury ducks are a well-known breed of large growth we can see the reason for this locality being chosen, Leighton Buzzard being, as it were, the centre of the egg-producing district for this variety.

Much of this breeding and fattening business appears to be in the hands of the cottagers and small holders, and we believe it is only by the multiplication of small poultry farms that we can increase our output of birds and eggs. Individual care, unwearying patience, are at the bottom of all successful effort, and only industrious, cleanly folk, need ever hope to make poultry pay. The egg producing (duck) is quite a separate industry from the hatching and fattening. The fatterer gets his eggs where and how he can; each man probably has his own houses of call, and will bargain to take all eggs during the season at an arranged price. Of course in the early season the ducks' eggs are a veritable prize, 6s. to 7s. being given for a sitting of thirteen. Occasionally, too, as early as Christmas, 1s. a piece will be given for fertile eggs.

There seems to be a difficulty about sitting hens; 4s. seems a good price to give for a broody hen, and our own experience goes to prove that when finished with 1s. 3d. is all that we dare to ask or expect to get. We think a good reliable and reasonable incubator would be a boon to these raisers. We have found ducks do equally well in the care of a foster mother as chickens, but of course we do not presume to dictate. We have given up trying to get early sitters, but perhaps we have not been persevering enough in our search for them. Of course it is most advisable when hens are used for the purposes of incubation that several should be set on the same day, so that when about the tenth day the eggs come to be tested, and the unfertile removed, there can be an amalgamation of nests, or rather of the contents, and thus one or more hens will be found ready to begin with a new sitting of eggs; time and hen power being of great value.

Not a moment must be lost after the duckling is hatched; his sole object in life being the laying on of flesh with the greatest rapidity possible. His first diet will consist of hard-boiled egg chopped fine (the unfertile ones doing well for this purpose), and soaked toast; then there is a change of diet after a week or ten days, boiled rice, which costs about 10s. per cwt.; then again barleymeal and sharps, both excellent flesh formers. At five weeks old begins the fattening proper, when tallow scrap is introduced, or perhaps instead of that, boiled horse flesh or fallen sheep will be given; the mealy compound as before. This makes a rich heavy food, and to help the system to stand it the common nettle is added to and boiled with the mixture. Nettle tea or beer used to be an old favourite spring remedy with our grandmothers for all sorts of blood ailments. Three meals a day are a necessity, and it is wonderful to see how much a duckling will put out of sight. Early in the season the per-centage of "wrong" eggs will be heavy, but if 85 per cent. can be turned into fat duckling there is not great cause for grumbling. Our experience is, that the later the eggs (up to June) the more fertile they prove. Possibly this is in a measure owing to a greater preponderance of natural food, grasses, slugs and worms.

Taken from their foster mothers at a week or ten days old, they are put into wooden sheds with a "run" in front. Clean straw and daily cleanings are of first importance. Ducks are dirty things, and contrive to get themselves "messy" where a chicken would be as clean as a new pin. Just see the filthy state of a water trough to which ducks have access, and see how they "splutter" and toss about their food. It does not do to have too many together, so the "flocks" consist when the birds are young of about 100, and as they near maturity two dozen are quite enough. When we hear of a cottager having as many as 1300 young ducks on his premises at the same time, and another sending off 1900 in a season, we must allow that great energy and enterprise is at work, and these people contrast very favourably with the much vaunted French peasantry, who are so held up to our people as an example in what may be called "poultry

industries." We hear, too, of a farm, 160 acres in extent, where the number of ducklings sent to market in 1893 was 10,000. The workers are not toiling all the year round, as August sees the end of the duck trade, so the houses, pens, and rearing ground generally have plenty of time to get thoroughly sweetened and made wholesome again.

The prices of the young ducklings, which we quote from an article in "Royal Agricultural Journal" for 1894, are as follows:—London: February, 16s. per couple; March, 14s.; April, 12s.; May, 8s.; June, 6s. to 7s.; and their average weight when dressed is about 5 lbs. per couple. The feathers, too, are worth a little; indeed we fancy in many a home "goose feather bed" might be read "duck" without being far wrong. Carriage and commission per bird may be reckoned at 3d.

Great attention should be given to the production of eggs for sitting purposes—i.e., strong, healthy birds can only be expected from eggs where the parents are not too closely related, nor too artificially fed.

We have omitted one small item in the food list. It is given with the food, though not of it—*grit*. It matters not what may be the nature of the fowl kept, it must be supplied with teeth, and these teeth are internal. Bits of sharp flint, pebbles, the bird by instinct picks up, and when in confinement care must be taken that an adequate supply be provided. There can be no good digestion without mastication or its equivalent.

WORK ON THE HOME FARM.

The rattle of the reaper has ceased, but the rattle of the waggon has not yet been heard. No hay has been got so far, and many farmers are beginning to be anxious. The rainfall has been neither heavy nor continuous, but it has been sufficient on every day to prevent successful haymaking. Crops are very heavy, and this makes greater the difficulty of making the hay when showers are so frequent. We do not believe in moving the crop about much in showery weather; it must be watched, to see that it does not become rotten in the swathe. If there are signs of it turning yellow, the swathe had better be turned over without more disturbance than is necessary. Wait for the prospect of a really fine day, spread out quickly in the morning, and get it into cock before night. Once in cock it can take no material harm, and if it is not sufficiently made for carting wait a day or two, turning the cocks over every day about noon, and cart as soon as thought advisable.

Cattle and sheep are doing well, and have abundance of pasture. Markets, however, are very slack, and fat stock are not making a remunerative price. There is a fair demand for holding sheep at hardening rates.

We cannot too earnestly impress on farmers the necessity of dipping their flocks, and particularly about this time of year. The cleverest flock-masters we know always dip their sheep four times during the year, and the midsummer and September dippings are looked upon as being the most essential. We were talking to two neighbouring shepherds a few days ago, and were struck with the fact that whereas one had only met with one case of fly-maggot in his flock, the other's experience was exactly opposite. A few questions elicited the two facts that the sheep that were exempt from attack had been dipped, whereas the others had not. Surely the saving of labour and close attention which has been thus obtained by dipping is worth the cost, even if no account be taken of the difference to the poor sheep themselves.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1898. July.	Barometer at 32°, and Sea Level	Hygrometer		Direc- tion of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Tempera- ture			
		Dry.	Wet.			Max.	Min.	In Sun	On Grass		
	inches	deg.	deg.		deg.	deg.	deg.	deg.	deg.	inches	
Sunday	3 30.007	61.2	51.7	N.	61.3	71.9	49.8	125.1	48.8	—	
Monday	4 30.080	55.2	49.1	N.	61.8	68.9	50.4	120.8	48.3	—	
Tuesday	5 30.315	64.1	54.7	N.W.	61.7	71.2	47.3	117.9	46.3	—	
Wednesday ..	6 30.299	65.1	58.6	N.W.	62.4	77.9	58.4	126.8	57.1	—	
Thursday ..	7 30.243	69.3	61.2	N.W.	63.2	76.0	56.2	121.6	50.2	—	
Friday	8 30.191	64.3	57.3	N.	63.0	71.4	52.1	116.9	47.1	—	
Saturday....	9 30.302	55.9	51.8	N.	62.4	64.6	48.8	91.2	43.9	—	
	30.205	62.2	54.9		62.3	71.7	51.9	117.2	48.8	—	

REMARKS.

3rd.—Bright sunshine almost throughout.
4th.—Fine and pleasant, but cloudy at times in morning.
5th.—Sunny morning; generally overcast from noon.
6th.—Generally overcast till noon; frequent sunshine after.
7th.—Sunny early and late, but overcast for three or four hours during the day.
8th.—Bright till 11 A.M. and after 3.30 P.M., overcast between.
9th.—Overcast almost throughout, but a little sun towards sunset.
A rainless week, with temperature near, but rather below, the average.—
G. J. SYMONS.

WEBBS' SEEDS

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Journal of Horticulture.

THURSDAY, JULY 21, 1898.

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STRAWBERRY CULTURE.

WITHIN the last decade the culture of this favourite and luscious fruit has increased at a great rate, and Strawberries are probably better cultivated than ever they were. The old plan of leaving the plants on the beds year after year has gradually died out, and is now nearly obsolete. Indeed, there are indications that, with certain varieties at least, annual planting will be followed, the finest, earliest, and best flavoured fruit being produced thus secured.

Where it is possible a few rows should always be set apart for the production of early layers, but unfortunately few of us are able to do this to more than a limited extent. Good results may be obtained without it, and by layering the plants early, and cultivating them well, grand fruit, equal to that exhibited at the principal shows, may be grown by anyone who will take the trouble.

But culture, to be first-rate, must never be relaxed. A good start is absolutely essential with strong healthy plants, and from the time they are layered until the fruit is gathered the cultivator must always be on the alert. The runners should be placed on small pots filled with the best loamy soil at command; this ought to be firmly rammed in, and the pots stood upright on the bed. Where the fruit blossoms have been picked off with a view to obtaining runners only, the pots may be slightly sunk in the soil, but this is not easy when the beds are strawed for protecting the fruit. Pegs or small stones can be used to keep the runners in position, the former keeping the plants firmer, while the latter prevent in some degree the soil in the pot becoming very dry. Use the best and earliest runners only, and pinch the wiry stem beyond.

If the weather prove dry considerable trouble will be found in watering, especially when the roots have taken to the new soil, but in wet seasons the work is of course much less. When well rooted the young plants may be taken off, and if sunny weather occurs, stood for a few days in a shady position; or a better plan is to stand them quite in the open and shade slightly when necessary.

The ground meanwhile will have been prepared for their reception by deep digging, and the addition of good spit manure; it can hardly be too rich. Before planting, the plot must be firmed well by treading or rolling, and before the plants get the least root-bound they should be placed out in rows 2 feet apart each way, well watered, and kept moist at the root if the weather be dry. In planting from small pots it is hardly possible to go wrong as to depth, for the roots will not require spreading out, and the surface of the compost must be only just covered with a little fine soil.

With runners from the open ground it is quite different, but for first-rate culture these are not suitable. Keep the surface soil loose by frequent stirring through the autumn months, and leave the plants to finish stout leafage and good crowns. Thin the flowers a little when the forwardest fruits are set, but avoid doing this too early, as occasionally the earliest flowers are spoilt by late frosts.

Varieties are now very plentiful, but to give a list is misleading, as what succeeds in one place is a partial failure in others, and *vice versa*. For instance, the finely flavoured Empress of India is not worth growing on our heavy soil, the plants never making a free growth or fruiting at all well; but where it succeeds it is splendid. Nor are its companions, Gunton Park and Lord Suffield, any more at home. As a good all-round variety, thriving alike in dry or wet seasons, and in all kinds of soil, the well known Royal Sovereign is supreme. Propagated annually I question if it can be beaten for size, while the quality is distinctly good. Monarch is a fine Strawberry in a wet season like the present, but last year the weather was too dry for it. The flavour is good, and it is very handsome. I do not grow Leader, which was sent out at the same time, but in a neighbouring garden, on a light sandy soil, it has been excellent this year.

Noble and Sir J. Paxton I am doing away with. Both have their good points, but the flavour of both is poor here, though I must say of the latter that in some places experienced growers are loth to part with it. It is, however, easily beaten by Royal Sovereign, and will have to go. British Queen will not thrive, but Dr. Hogg is the Strawberry *par excellence* on this soil. It has not a bad point, being free in growth and bearing, and of excellent flavour. I never leave it on the ground more than two years, and the fruit is best the first season.

A very distinct and good Strawberry is Latest of All, though the name is somewhat misleading. It crops over a long season, but its earliest and best fruits appear in July. The foliage is pale green, the fruit exceptionally large, and excellent in flavour. My experience with the newer Veitch's Perfection is limited, but it will probably take a high place in the near future.

These are the best I have grown out of a somewhat large collection. The soil is a heavy loam, overlying chalky gravel, the position cold, and all have been grown in a garden enclosed with Yew and Box hedges, where birds of all kinds are so abundant as to necessitate the netting of all the Strawberry quarters. Now that the merits or otherwise of different varieties are fresh in the minds of cultivators it would be interesting to know the opinions of other growers who have to deal with soils of diverse character.—H. RICHARDS, *Coldham Hall Gardens, Bury St. Edmunds*.

VEGETABLES FOR HOME AND EXHIBITION.

JERUSALEM ARTICHOKE.

ALMOST every garden has its plantation of Jerusalem Artichokes, but in many it does not get justice. There is nothing fresh to relate in regard to its culture, as it is amongst the most accommodating of plants, and will grow freely in almost any soil. It is here, however, where the evil shows itself, unless a thoroughly systematic method of cultivation is adopted. Many gardeners have had good reason to deplore the prolificness of the Artichoke in cases where plantations have been made and little or no further attention given. After overcrowding the space intended for them, and producing a large quantity

of insignificant tubers, the plants wander beyond their boundary, and if not taken in hand, in course of time become a nuisance.

Methodical cultivation may be told in a few words. A deep retentive soil is the most suitable, but an excess of moisture is detrimental. In planting it should always be borne in mind that under suitable conditions a vigorous top growth of 10 or 12 feet is made, this necessitating ample room between the rows and the sets. February or March is the best time to plant on well worked and deeply manured ground. Having marked out the space to be planted, form trenches about a yard asunder and 6 inches in depth. In these place whole sets, allowing a distance of about a foot apart, and rake in the soil. When the plants appear, and are growing freely, soil should be drawn up to them with the hoe, and beyond an occasional stirring of the surface soil between the rows no further attention is required till the time arrives for lifting.

In anticipation of severe weather a portion or the whole of the crop may be lifted in November, and stored in the manner recommended for Carrots, always reserving sufficient tubers for fresh plantations. Our custom is to lift part of the crop in the early winter, leaving the remainder in the ground to be dug as wanted, but all are cleared out, the ground thoroughly cleaned, and fresh plantations made in the spring. When digging it is a mistake to go over the bed, taking out tubers here and there. A fork should always be used in the operation, and a wide trench opened, removing every portion of root, as each particle that is left in the ground will grow, and become a nuisance later. Strictly speaking, the Jerusalem Artichoke is not an exhibition vegetable, though at late shows they are occasionally seen in large collections, and for this purpose even tubers, moderate in size, and washed clean, are the best. The white variety produces smooth well-shaped tubers of superior quality. A new variety has been exhibited by Mr. Wythes with Cucumber-shaped tubers about a foot in length.

GLOBE ARTICHOKE.

These are prized in most well-furnished gardens, and may be treated in a variety of ways. They are sometimes grown as perennials, but they deteriorate after a few years, and new plantations must be made. In order to maintain a succession a good method is to make a sowing every spring, and to allow the plants to remain till the end of the second season. By this means two plantations are kept growing, one producing and the other coming on to take its place. The Globe Artichoke is more particular about soil than the Jerusalem, and in order to obtain fine heads a deep rooting medium enriched with good manure is requisite. Seeds should be sown early in April in a light prepared bed, and the plants removed to their permanent quarters when large enough, though they may also be sown where they are intended to grow. A yard must be allowed between the plants always, in order to encourage their development, and a vigorous growth be encouraged by keeping the surface soil well worked between the plants. Only a limited number of seedlings, however, produce satisfactory heads, and the best are obtained from plants raised from suckers of an approved stock inserted in the spring.

The production of large heads depends very much on the depth and richness of the soil, and the assistance subsequently given. During dry weather frequent application of water will assist development, and an occasional supply of liquid manure will also help greatly. In order to obtain large specimens for exhibition purposes disbudding may be done, and this consists of removing small heads protruding from the main stem, by which means the vigour of the plant is thrown into one channel, and the heads in consequence grow to a large size. Cut the plants down after the heads have been removed, and for winter use the latter are sometimes dried very slowly in an oven, wrapped in paper, and stored in a dry place where they will keep till required. The blanched stick or lower part of the stem, called chards, have a similarity to Cardoons, but it is questionable whether they are sufficiently useful to bestow on them the necessary time and labour in preference to growing the crop mentioned.

Globe Artichokes are not quite hardy, though they will pass through an average winter with safety. It is the safer plan to afford some means of protection, which may consist of a covering of loose litter, or, what is better still, cut away the old stems and large leaves and throw up the soil from either side on the approach of severe weather. In the spring, if the soil is removed and a dressing of manure applied, the plants will make early and robust growth. In some gardens Globe Artichokes are allowed to grow for several seasons, but the best results are obtained if the plants' existence is limited to no longer than three years.—GROWER AND JUDGE.



SHEFFIELD CHRYSANTHEMUM SOCIETY.

THE July meeting was held in the Society's rooms on Wednesday, the 13th inst., when the minutes of the previous meeting were confirmed and new members admitted. An essay on "Cut Flowers" was read by Mr. M. H. Willford, who handled his subject in a very able manner. He referred to the old-fashioned way in which flowers were formerly made into bouquets and for decorative purposes, and compared the style with the present greatly improved floral displays. Artistic and natural combinations were strongly advocated, with due regard to the shape and colour of all flowers employed, and for the purposes for which they were required. He drew special attention to the beauty and harmony of the manner in which the Japanese illustrated plants and flowers, and gave valuable hints for general arrangements of cut flowers. The essay was well received, and was accorded the thanks of the meeting.

The exhibits were cut flowers, and a good display was shown. Amongst the professional flowers were fine examples of Allamandas, Gloxinias, Vallotas, tuberous Begonias, Pancratiums, Stephanotis, and Pelargoniums. In this class Mr. J. Dixon was first, and Mr. C. Scott second. Amongst the amateur exhibits were good specimens of Orchids, Roses, Bougainvilleas, Gloxinias, Begonias, and Cannas. The prizewinners were Mr. M. H. Willford first, Mr. P. T. Burton second, and Mr. W. Willgoose third. Mr. S. W. Seagrave, of the Gleadless Nursery, exhibited, not for competition, a number of bunches of the new white Pinks "Her Majesty" and "Albino," for which he was awarded the Society's certificate of merit.

The Committee regretted having to report the death of M. J. Ellison, Esq., agent to the Duke of Norfolk, who for many years was a patron of the Society. A vote of sympathy was ordered to be sent the family of the deceased gentleman, and it was arranged that a deputation from the Society should attend the funeral on the 16th inst. By special request there will be no flowers, or the Society would have sent a wreath.—J. H. S.

SEASONABLE NOTES.

THE potting of all but the latest propagated plants ought now to be finally completed. It is an excellent plan to leave sufficient space to allow of a rich top-dressing when the soil becomes fully occupied with roots. The newly added soil encourages the multiplication of young feeding fibres, which assist so largely in developing stout plump buds if other details practised in good culture are carried out.

In dry sunny weather Chrysanthemums appreciate light syringings of clear water directed over the foliage from several positions. It helps to maintain the points of shoots clean and free from insects, also encouraging growth.

Stakes approximating to the height of the plants when full-grown ought to be inserted at the time of final potting, chiefly because the roots will be less damaged then, and also because the plants will be better protected against winds, which, however, may not be sufficiently strong to damage growths by breaking, but the foliage is bruised.

The positions on which the plants are stood ought to be fully exposed to sunshine and partially sheltered from the rough south-westerly and westerly winds. The pots are best placed in lines with 3 or 4 feet space between each line of plants. Strong upright stakes must be driven down at the ends, and a wire strained between to which the stakes can be secured. This will prevent the plants being blown over during the time they remain outside. Tie the growths in as they advance, but always leave a few inches of the tops free, as the shoots are safer from snapping than when tied quite closely.

Watering is a point which requires regular attention, giving the plants sufficient to prevent flagging. The shoots sometimes droop a little in excessive sunshine, and if the soil is moist enough the syringe will revive the plants. Overwatering, especially, must be guarded against during the early stages of growth after potting.—E. D. S.

PRESERVATION OF FRUITS.—It is not generally known, says Mr. Meehan, that a strong element in the successful preservation of fruits is healthfulness in the tree that bore them. An Apple, Pear, or Grape that can be kept for three months after gathering from trees in a perfect state of health, will show evidence of decay in much less time than if taken from trees in a less vital condition. Some fruits will of course naturally keep longer than others. There are autumn Pears and Apples and winter Pears and Apples. This condition is a result of a constitutional difference; but aside from this constitutional difference, vigorous life-power has much to do.

THE HISTORY OF THE SOILS OF THE BRITISH ISLES.

(Continued from page 10.)

THE chalk formation holds an important position in this country, less on account of the extent of the area it occupies than to its local prominence and distinctive character. It is characteristically developed in the southern counties, and gives a very decided calcareous character to the soil which rests upon its rounded elevations, and to the accumulations found in the valleys at the base of its hills.

The soft and earthy character of this limestone renders it especially liable to be acted upon by atmospheric influences. That the waste and displacement of the matters of which it is composed have been extensive is shown in the contour of the hilly ranges, and in the amount of flint and calcareous matter largely distributed over the country adjacent. This is evidently the result of the denudation of the chalk hills. The layers of flint occurring with tolerable regularity throughout the formation, when broken and dispersed, as those which occur on the surface of the chalk lands generally are, from attrition and exposure, assist to render the land more open, and contribute their quota of silica to enhance the fertility of the soil. This formation has largely contributed the deposits of sand, gravel, and marl, and has furnished the great beds of those matters found so abundantly in the Thames valley.

Besides the chalk, which forms the upper group of the cretaceous system, we have belonging to it several others, which, though not extensive in their development in this country, are yet of some considerable interest as a series of distinct and useful soils. The chief of these are greensand, gault, and the beds of the Weald. Greensand is what in our classification we call a primitive soil, being derived directly from the parent formation. It owes its name to a greenish colour, contributed by a chloritous silicate of iron. But the sands present various tints, and in composition various degrees of fineness. Though not pure as a sand it is superior to the majority of sands in a cultivator's point of view. It forms, when worked and enriched, a warm and valuable soil for early crops, and is utilised in Bedfordshire by market gardeners for the production of choice vegetables for the London market.

The gault is a stiff blue marly clay interstratified with the greensand. It has some affinity with the lias, as it contains nodules of iron and fossils, and has the same merits as that formation under cultivation.

The weald lying between the chalk and oolite in Kent and Sussex possesses a series of clays, sands and loams, the latter generally containing the elements of fertility, and of a more or less calcareous character.

In reviewing the several formations we have already adverted in general terms to the tertiary as a most important period in relation to our subject. In specifying the special characteristics of each, and taking them in the order of their arrangement, we have again to detail, but more particularly, the remarkable effect brought about by climatic and other causes during the tertiary period.

The last geological period to which we shall have to refer in detail was an epoch of considerable disturbance of the existing state of things, in which this part of the European continent was involved. The changes effected in ancient land surfaces by their elevation, depression, and subsequent upheaval, then exposure to extremes of climate and to the violent action of overwhelming floods, was naturally very great, and we may regard, as we have before remarked, the period as one of the most important in its effects, with reference to our subject, in the whole range of geological history.

Prior to this time the great primary and secondary formations presented in mountain ranges and swelling hills a massive frontlet of rugged rocks, and in this form the material existed for the soils needed for vegetation, but sealed up, and seemingly impenetrable. It was within the tertiary period that these mountain heights were assailed by forces competent to affect the stern integrity of their structure. Slowly, in dim procession, came the assailing forces, in storms of snow and in frosts of an intensity sufficient to bind up in icy folds both land and sea; then commenced the great elemental strife. Rocks were rent, and their exposed parts sundered by the intense cold. Glaciers started from the mountain heights and ploughed out deep valleys, and gave to the lower lands the wreckage of the hills in the shape of moraines, and then the wash of mighty rivers ensued, and in the swirl and turmoil of their waters the hard fragments of rock again suffered, and sand, gravel, soil, and silt accumulated. And when the work of the frost was done and the Arctic climate modified, the stormy waters of the sea carried huge icebergs, and as they hurtled down again the rocks yielded their fragments. And now the land was pressed beneath the waves, and as the waters rose or fell fresh dislocations took place, and each inroll of the waves ground the masses, and gave as a result the great accumulations of gravel and of soil we possess. During untold ages and cycles of centuries the

ocean was dominant, and in more tranquil parts great sedimentary deposits were formed; in others, accumulations of clay took place, largely derived from the deposits of the ancient liassic sea, or other clay formations, but containing rounded masses of rock, fossils from various sources, and now styled from its water-worn stones, boulder clay and till, sufficiently evince the duration of this period in the history of our land.

The irregular distribution of soil, clay, or sand over a very extensive land surface to those entirely unacquainted with the changes and revelations which the science of geology has unfolded, are perplexing and inexplicable. Some clue to their origin cannot but be useful to those who have to deal with the practical work of cultivating land. These boulder clays, for example, are difficult to drain; they have not the stratified or laminated structure of the lias. The matrix of the boulder stones imbedded in clay retains water, and over a wide district the humidity and tenacity of this clay make cultivation difficult, and produce brooding mists and local cold.

The immense masses of earthy matter, of which the above is an instance, broken up and commingled and deposited without reference to gravity or other law of arrangement over the face of the country, renders it difficult, if not impossible, to classify the various matters with any degree of precision. It may be remarked that they generally partake strongly of the mineral character of the formations of their respective districts, and the knowledge of this fact is important in horticultural practice, as drifts or deposits of sandy loam, for example, derived from limestone hills, very naturally partake strongly of the calcareous character of that stone; and as lime, though an admirable base, or even fertiliser, of some crops, is obnoxious, and even fatal, to Ericaceous plants, it follows that losses and disappointment follow from its employment as a soil for this class of plants. Loamy deposits should thus be investigated, and the source whence they were derived ascertained.—P. T. INGRAM.

(To be continued)

MR. D'OMBRAIN'S GARDEN.

"It is far easier," remarked the editor of a great paper to me once, "to write an article than to find a good heading for it." Ever since that time I have made the first duty, in connection with a contribution, the careful choice of a title, and over and over again I have proved the truth of the great autocrat's words. But ever and anon the onerous task simplifies itself. The subject is its own heading. To indicate it supplies it with its one attraction for the reading public. And so—for the present is a case in point—I simply tell you that I want to chat about Mr. D'Ombraïn's garden, and the position and popularity of the famous amateur; give me your ear.

It is the middle of an early July morning, with a shimmer of sunshine on the sprawling hop bine. The haze has left the hills, and at the foot of them nestles the village. Westwell is a secluded spot in a lovely corner of beautiful Kent, enshrined in green meadows, shadowed by woods, overhung by the leaning heights of adjacent hills. It is rich in pure pastoral charm. The fragrance of the lanes makes the way thither from Ashford all too short. There is a station a mile or two nearer—Hothfield, on the London, Chatham, and Dover line—a station, too, with its walls and fences clad with gay creepers and splendid fan-trained trees, but no visitor would grudge an inch of the distance from the railway town to the vicarage gate, so full of pleasant features is the country-side.

Though still so early, the octogenarian florist was out. "In the garden of course," was my swift conclusion, "where else?" But I was momentarily forgetting that there are other things besides his flowers very near the veteran's heart. He was not in the garden; he was away paying an early visit to a parishioner, whence, an hour afterwards, he returned, carrying his burden of more than eighty years along the flower-bordered garden path, feeling his way along the familiar road with outstretched stick to aid the sight which age has made very dim, but breaking into a genial smile, into a cheery welcome, when told that a visitor was there. I recall, and shall do when years have quenched my own vigour, the sight of the white-headed figure amongst the flowers, bent and peering, but spontaneously gay and vivacious at the nearness of another, though more obscure, horticultural spirit.

And the garden! Why, sirs and ladies, it is a medley. Flowers hardy and flowers tender, fruit trees big and little, vegetables—Ah! no big and little here, all are big and bold—shoulder each other close to the vicarage windows. Here is a bed of Tea Roses, there one of strawberries, and sandwiched in between are rows of Celery and Potatoes. Mr. D'Ombraïn laughingly declares that his small enclosure of horticultural hotch-potch is not a garden at all, and merits no such dignified name; but while the venerable vicar was still away on his errand of comfort or mercy, I had gone the round with stalwart Edward Clements, whose fame as a vegetable grower has spread far beyond his own district, and who declares, with an emphasis no one would dispute, that he has one of the best masters in the world. And on this round I had seen more flowers,

more fruit, more vegetables, aye, and immeasurably more cultural skill, aptitude, and attention, than in the average garden of three times the size.

Let us item out the things with which Mr. D'Ombraïn's name is more particularly associated. The Roses alone make a garden. I have seen larger beds, but never more beautiful ones. There are probably few collections fuller of interest, I mean as regards vigour, excellence of culture, and choice of variety. I should be very sorry to start lists of names, for perhaps readers of show reports have had enough just lately—besides, there are far too many to be enumerated. It will be enough if I convey the fact that the collection is representative, that it is being kept up-to-date with meritorious new varieties, and that in respect to quality of bloom it suffers nothing in comparison with many others that send out prize stands. The Teas are a particularly beautiful feature. With a winter mulching they contend successfully with the brisk hill breezes, and one fairly large bed of them is a picture of chaste and delicate beauty. A hint as to labels. Much the most appropriate to the mood of the "stout party" who does not like stooping is Pinches' Acme. Mr. D'Ombraïn uses many sorts, but no better a one than this.

We wander, I think, into his daughter's domain, where we go amongst the rock beds and hardy plant borders. I am told the sight of them in spring is something to remember, from the wealth of bulbs which adorn them. There is a vestige of this brilliant host in a few odd Calochorti, which have lingered on into Rose time without suffering too sharply for their temerity, but the bulk, of course, are gone. As successors to them are to be seen a glad array of fine perennials, some all too little grown. I was much struck by the fine *Campanula celtidifolia*, a bold and shapely plant, with handsome Hyacinth-like clusters of rich blue flowers. It was a conspicuous object from every part of the garden. The yellow *Centaurea glastifolia*, 4 feet high, was another effective plant. *Scabiosa ochroleuca* reared its yellow tufts to a similar altitude and was not less telling. Breadths of beautiful *Columbines* brighten the borders, and alternating with such determined and vigorous growers were more fastidious plants, like the *Edelweiss* and *Ramondia pyrenaica*, the former of which luxuriated in a bed of ashes, the latter snuggled itself under a miniature cave of stones. Broad are these borders—broad and full. A hedge of pungent Sweet Briar intersects them, a column of Crimson Rambler Roses rises at one end.

Anon the visitor pauses, for he has come upon another speciality—the *Gladiolus*. There is a colony of them in a certain part of the garden, a sturdy colony, a happy colony. They are believers in imperial federation, if they have no leanings towards imperial penny postage. They appear to have a "reservation" of their own, being served as Uncle Sam serves his Redskins. But this makes us think of the Wild West and not of Westwell. Another ramble and another pause. It is *Auriculas* this time. No federation here, but isolation. They are enclosed within wooden walls—walls that have done their duty for many a year, that are war-worn, battle-stained. We have read about these *Auriculas*, they are old, old friends. I gaze upon them, therefore, with a friendly and sympathetic eye. Yes, there are the glazed pots, too, shining superior to their unglazed brethren.

The greenhouse is the one bit of glass rising above the dignity of a frame on the place. It is an ancient span-roofed structure heated by a flue. Perhaps a shade crosses the contented face of the stalwart Clements as he reflects on the vagaries of that flue. It is a cross-grained and erratic flue. Occasionally it goes on strike, and rejects arbitration; then, of course, the unhappy Clements has to establish a night relay of pickets, each relay consisting of himself. He is a "blackleg," too, by the time he has done with it. But the shade disappears quickly, for winter is far behind; there is mellow summer heat, and the house is gay with flowers. "Always full of bloom, winter and summer," says the stalwart one. It is very full now. There is a splendid collection of *Pelargoniums*, and amongst the many fine *Zonals* the salmon rose Mrs. D'Ombraïn, one of the best of Messrs. Pearson's excellent strain, is conspicuous. Modernity shows itself in the *Streptocarpus*; but beautiful though they are, they are not more attractive than the many plants of *Zephyranthes*, which bloom for six months and never ask for a shift.

You see, then, how the case lies. All the canons of horticultural description are upset by a garden like this. The writer cannot parcel his subject out in the time-honoured way. "We now enter the flower garden," and "this brings us to the gate of the kitchen garden," and so on. He is in the rosery, flower garden, rockery, kitchen garden, fruit department, all at once. He just rambles, and his jottings must do the same. In three breaths, Clements calls attention to a beautiful bush of Madame Chedane Guinoisseau Rose, a row of Sutton's Early Giant Pea, with eleven great fat peas of marrow flavour in the pod, although a first early, and a line of horizontal cordon Apples full of grand fruit, particularly Lane's Prince Albert, Tower of Glanis, Mère de Ménage, Warner's King and Alfriston.

Yes! Mr. D'Ombraïn's garden is full of interest, full of beauty, full of lessons. It is a garden of which the memory is to be placed amongst beautiful, sweet and cherished possessions, not alone from its own charm and fragrance, but from the impulse and inspiration it has given to the venerable figure which has played so large a part in developing British horticulture.—W. P. WRIGHT.



ROSE PERLE DES ROUGES.

GARDEN or decorative Roses are becoming more and more popular, which can scarcely be a matter for surprise when we remember how greatly they enhance the beauty and interest of a garden. Such being the case, any addition to the class that is of more than ordinary excellence is greeted with pleasure by all garden lovers, and to the list we have now to add *Perle des Rouges*, a Polyantha variety of distinct character and striking beauty. The flowers are rather over the average size, and are of a rich velvety crimson colour. The petals are peculiar, inasmuch as the outer ones partake largely of the character of the Cactus Dahlia, in being distinctly fluted; the inner ones are wavy in outline, and slightly recurving. A flower of *Perle des Rouges*, which was shown by Messrs. Paul and Son, Cheshunt, at the Drill Hall on Tuesday, 12th inst., and received an award of merit, is depicted in the woodcut (fig. 7).

THE SEASON OF ROSES.

ROSES in Scotland are somewhat later than usual this year; but the great majority of Hybrid Perpetuals, Teas, Chinas, Polyanthas, and Hybrid Teas are now in splendid bloom. Among varieties of recent origin the finest in my own garden are *Empress Alexandra* of Russia, *Enchantress*, and *Waltham Standard* (of which the last mentioned has all the merits and all the faults of *A. K. Williams*, which often comes, in a season like this, with very hard buds); *Mrs. James Cocker*, a cross between *Mabel Morrison* and *Mrs. John Laing*, a variety of fine form and colour, and those handsome Hybrid Teas for which we are indebted to the Newtownards firm, *Miss Ethel Richardson* and *Countess of Caledon*.

I have tried *Muriel Grahame*, the latest sport from *Catherine Mermet*, and greatly prefer the parent variety. *Purity* and *Mrs. Frank Cant*, the former raised by the late Mr. Bennett, I have not yet seen, but hope to add to my collection before next season, as they are, manifestly, varieties of considerable attractiveness.

The grandest Roses at present in my garden are *La France*, *Clara Watson*, *Margaret Dickson*, *White Lady*, whose fragrance resembles that of a *Malmaison* *Carnation*, *Viscountess Folkestone*, *Marquis Litta*, and *Gloire Lyonnaise*. Among Teas the most conspicuous are *Medea*, *Madame Hoste*, *Anna Ollivier*, *Catherine Mermet*, *Papa Gontier*, *Comtesse de Nadaillac*, *Princess Vera*, and *Marie Van Houtte*, which should be largely cultivated in every garden.—DAVID R. WILLIAMSON.

ROSE SHOWS.

MAIDSTONE.—JULY 13TH.

THOUGH the interests of horti- and agri-culture are to some extent mutual, it is not often that the queen of flowers and prize cattle form individual sections of the same show. Such, however, was the case at Maidstone on the above date, when the Maidstone Rose Club held its annual exhibition in conjunction with that of the Mid-Kent Agricultural Association. The Rose department was only small, but the show was good and full of interest to the many visitors, judging from the crowded condition of the tent during the afternoon. Portly farmers eagerly examined the exhibits, and from remarks dropped it was evident that their knowledge was not confined to hops and cattle. The fine weather recently enjoyed has had a beneficial effect on Roses, with the result that the flowers as a whole were of excellent quality, and the competition of an encouraging character. The principal honours went to one exhibitor, Colonel Pitt, who showed some fine stands of flowers.

For twenty-four blooms in distinct varieties, Col. Pitt won the Mayor's prize. The flowers comprising the exhibit were good and fresh-looking throughout, the varieties being *Mrs. J. Laing*, *Souvenir de S. A. Prince*, *Earl of Dufferin*, *Comtesse de Nadaillac*, *Marie Rady*, *Cleopatra*, *Her Majesty*, *Innocente Pirola*, *Caroline Kuster*, *Gustave Piganeau*, *Souvenir d'un Ami*, *Star of Waltham*, *Honourable Edith Gifford*, *Camille Bernardin*, *The Bride*, *Beauty of Waltham*, *Baroness Rothschild*, *Madame Hoste*, *J. S. Mill*, *Ernest Metz*, *Merveille de Lyon*, *Anna Ollivier*, *Duchesse de Caylus*, and *Jules Finger*. Mr. R. E. West gained the second prize in this class, the competition between the two being keen. Conspicuous in the exhibit were good blooms of *Annie Wood*, *Ulrich Brunner*, and *Prince Arthur*. Mr. F. Knight was a very creditable third. Col. Pitt also showed the best twenty-four blooms in the Society's class, though here the flowers were not quite so fresh and good. The best in the stand were *Mrs. John Laing*, *Marie Rady*, *La France*, *John S. Mill*, *Dr. Andry*, *Her Majesty*, *Merveille de Lyon*, and *Baroness Rothschild*. Mr. R. E. West obtained the second prize, and in the exhibit were noticed fine flowers of *La France*, *Mrs. John Laing*, *Marie Baumann*, *Dupuy Jamain*, *Eugène Furst*, *Charles Lamb*, *Ulrich Brunner*, *Mrs. Sharman Crawford*, and *Duke of Edinburgh*. Mr. F. Warde was third with a fair exhibit.

In the class for twelve Teas and Noisettes premier honours went to Col. Pitt, who showed good blooms of *Innocente Pirola*, *Comtesse de Nadaillac*, *Caroline Kuster*, *Cleopatra*, *Madame Hoste*, *Souvenir de S. A. Prince*, *Hon. Edith Gifford*, *Catherine Mermet*, *Anna Ollivier*, *Marie Van Houtte*, *Princess of Wales*, and *The Bride*. Mr. R. E. West was second with blooms inferior to the above. Col. Pitt won with eight varieties, three trusses of each, showing *Ulrich Brunner*, *Baroness Rothschild*, *Emilie Hausburg*, *La France*, *Her Majesty*, *Caroline Testout*, *Marie Rady*, and *Mrs. John Laing*; Mr. R. E. West also showed good blooms for the second prize. Mr. H. Foster showed twelve splendid blooms, which gained him the first prize in that particular class. The varieties were *Mrs. J. Laing*, *Alfred Colomb*, *Her Majesty*, *Duke of Edinburgh*, *Victor Verdier*, *Ulrich Brunner*, *Mons. Woolfield*, *Star of Waltham*, *Marie Baumann*, *Duke of Wellington*, *Merveille de Lyon*, and *Gustave Piganeau*. Mr. J. C. Trueman was a close second, and the Rev. H. Biron third. There was an excellent competition in this class, and several creditable stands of blooms had to be passed over.

Mr. F. Knight won the first prize for six Teas and Noisettes, showing *Ethel Brownlow*, *Souvenir de S. A. Prince*, *Madame Hoste*, *Francisca Kruger*, and *Innocente Pirola*. The Rev. H. Biron was a fairly good second, but he had to share that honour with Mr. J. C. Trueman, as both exhibitors were placed equal. The Rev. H. Biron claimed premier



FIG. 7.—ROSE PERLE DES ROUGES.

honours with four varieties in trebles, showing *La France*, *Mrs. W. J. Grant*, *Mrs. J. Laing*, and *Mrs. Sharman Crawford*. The second and third prizes went to Messrs. H. Foster and J. C. Trueman in the foregoing order. In the class for nine blooms in distinct varieties, Mr. H. Monckton won with good flowers set up in a large box, which did not improve their appearance. The best varieties were *Mrs. J. Laing*, *Ulrich Brunner*, *Lady Arthur Hill*, and *A. K. Williams*. Mr. T. Butler was a good second, and Mr. W. Haynes third. The last named exhibitor won with six Teas. Mr. H. Monckton was second, and Mr. W. Haynes third, but the latter stand contained one H.P. Mr. S. Lee Smith had the best six blooms of one variety, showing good specimens of *Xavier Olibo*; Mr. J. C. Trueman was second with *Her Majesty*. In the class for six Teas and Noisettes in trebles, Col. Pitt won with good blooms of *C. Kuster*, *Comtesse de Nadaillac*, *Madame Hoste*, *Souvenir d'un Ami*, *Hon. Edith Gifford*, and *Innocente Pirola*. The Rev. H. Biron was a fairly good second, and Mr. H. Monckton third. Mr. R. E. West had the best bloom in the show, a fine specimen of *Mrs. John Laing*.

The florist's art was well displayed in table decorations of Roses. Miss West, Reigate, won the first prize with a happy combination of Tea and Noisette Roses, in which William Allan Richardson was conspicuous. The tasteful vessels used to hold the flowers added something to the effect. Single Roses and Maidenhair Fern were largely used to advantage in *Mrs. H. White's* second prize exhibit, and the only thing that could be urged against the fourth prize decoration, belonging to *Mrs. H. Day*, was that it was a little too heavy. *Mrs. F. Warde* took the third prize, but the arrangement was a little crowded.

Messrs. G. Bunyard & Co. sent a large exhibit of Roses, which was

the subject of much attraction. Roses of all sections were represented, and among the Hybrid Perpetuals were noticed some fine blooms. Messrs. Bunyard also filled a small marquee in a tasteful and creditable manner. The firm showed Apples, Pears, Plums, and Figs in pots, and fruits of Strawberries and Peaches. Conspicuous also were well-flowered Fuchsias, Zonal Pelargoniums with remarkable trusses, Malmaison Carnations carrying giant blooms, stove plants in variety, a mystifying collection of hardy flowers, and a quantity of elegant Sweet Peas. The vegetable section was represented by Peas and Beans, and altogether the exhibit was as creditable as it was interesting.

IPSWICH.—JULY 13TH.

THE arrangement for all the floral exhibits at this Show, which was held in the Upper Arboretum, was excellent. Four good marquees were placed together in the shape of a cross, a handsome group of foliage plants forming the centre under the dome. The north annexe held the trade Roses, and the south those of the amateurs; the east made a fine show with the herbaceous and other cut flowers, while the west was devoted to the decorative exhibits, dinner tables and bouquets. All the staging was well filled without crowding, and there was ample width for promenade—no stumbling over spare boxes, as in the unfortunate Drill Hall at Westminster. The result was very commodious and effective, and reflected great credit upon the Secretary and Committee.

In the open classes Messrs. D. Prior & Son were first for thirty-six with a very fine stand of first-class form, colour, size, and substance. A grand exhibit, though not perhaps quite so good as Mr. B. Cant's at Woodbridge. Among the best were Mrs. John Laing, Helen Keller, Madame Eugène Verdier, Maman Cochet, Duc d'Orleans (wonderfully full), Mrs. Sharman Crawford, Horace Vernet, and The Bride. Messrs. Frank Cant & Co. were second with a good stand, showing Mrs. John Laing, Horace Vernet, and Beauty of Waltham well. Mr. B. R. Cant was third with a weaker exhibit. For twelve trebles Messrs. Prior and Son were again first, showing good triplets of Mrs. John Laing and Her Majesty. Mr. B. R. Cant was second, and Messrs. F. Cant & Co. third. Messrs. Prior & Son were also first with a fine stand of twelve Teas, Souvenir de S. A. Prince, Maman Cochet, Medea, and Innocente Pirola being conspicuous. Messrs. F. Cant & Co. were second with a nice box of smaller blooms, and Mr. B. R. Cant third.

For six H.P.'s, similar, Mr. A. G. Green, Horkesley, near Colchester, was first with fine examples of Mrs. John Laing, Mr. B. R. Cant second with the same, and Messrs. Prior & Son third with Her Majesty. In garden Roses Messrs. F. Cant & Co. were first, Messrs. Prior & Son second, and H. Egerton Green, Esq., third. Another amateur exhibit, very fine in many respects, was passed over as too crowded and massive in the bunches. In six similar Teas Messrs. Prior & Son were first with Maman Cochet, Mr. B. R. Cant second with Bridesmaid (coming beautiful this year), and Mr. G. Gilbert third with The Bride.

The amateur Roses were poor to look at after the trade division, except, perhaps, in the Tea classes. For twenty-four, Rev. A. Foster-Melliar was first, having a good Mrs. John Laing and a fair Maman Cochet; the Rev. H. A. Berners was second, and Rev. F. Page Roberts third. For twelve the Rev. A. C. Johnson was first, with Cleopatra as his best, Mr. Page Roberts second, and Mr. Egerton Green third. A stand of Mr. Foster-Melliar's, which might have made a good bid for first prize, was rightly disqualified for having in it two blooms of Comtesse de Nadaillac. As these two blooms were correctly labelled, and set in the front row, separated only by one Rose, it was clear that hurry, and not "intent to deceive," was to blame. For six trebles Mr. Foster-Melliar was first with neat triplets of Ethel Brownlow and Germaine Caillot, Mr. Berners being second. For twelve Teas Mr. Foster-Melliar was easily first with a good box, Innocente Pirola, Ethel Brownlow (highly coloured), Madame Cusin, and Maman Cochet being among the best; some of these blooms looked little the worse for their journey to Westminster and back the day before. Mr. Page Roberts was second with a neat arrangement as usual, and Mr. Berners third. For six similar H.P.'s seven of the eight exhibitors showed the favourite Mrs. John Laing, Mr. Johnson being first, Mr. D. C. Warnes second, and Mr. J. Carter third. For a prize of silver salt cellars, for six similar Teas, Mr. Foster-Melliar was first with Catherine Mermet, all perfect; Mr. Johnson second with Souvenir d'Elise, large, but two or three imperfect; and Mr. Page Roberts third with Innocente Pirola. In an extra class for twelve Roses Mr. Foster-Melliar was first, Mr. F. Corder second, and Mr. J. Carter third. The minor classes were filled with blooms above the average.

The weather holding fine a record attendance was secured, but a young gentleman whom I met in the evening said he thought it was a poor show. "How was that?" "Oh! I hardly met anybody I knew." I explained that it was not a show of people, but of flowers and fruit; but I don't think I convinced him.—W. R. RAILLEM.

HALIFAX.—JULY 14TH.

THE National Rose Society's Northern Exhibition was held in connection with the Salterhebble and District Rose Society's Show, in the convenient and admirable grounds of C. Holdsworth, Esq., J.P. (Spring Hall, Halifax), and all the classes were keenly contested. As giving some idea of the number of exhibits and extent of the Show, every inch of stage room in the large marquee, 80 yards by 20 yards, was utilised. The weather was perfect, the heat of the sun being tempered by a cool breeze, which prolonged the keeping properties of the blooms,

most of the exhibits being fairly fresh and bright until evening. To the mutual advantage of the Halifax townspeople and the National Rose Society, this is the second time the Salterhebble Society within four years has made a successful bid for the prestige to be derived from the premier Society's patronage, whilst the officials of the National Society have reason to be gratified by the all-round success of their visit to Halifax.

NURSEYMEN.

In the nurserymen's class for thirty-six blooms, distinct, five collections were staged. Messrs. Harkness & Sons, Bedale, came to the front with fine examples, which were fresh and highly coloured. The varieties were Ulrich Brunner, Caroline Testout, La France, Innocente Pirola, Kaiserin Augusta Victoria, Duke of Edinburgh, Maréchal Niel, John S. Mill, Niphetos, Ernest Metz, Merveille de Lyon, Mrs. J. Laing, Helen Keller, The Bride, Madame Cusin, Souvenir de S. A. Prince, Susanne M. Rodocanachi, Lady Mary Fitzwilliam, Général Jacqueminot, White Lady, Comtesse de Nadaillac, Earl Dufferin, Souvenir d'Elise, Madame Hoste, Madame Verdier, Catherine Mermet, Alfred Colomb, Jean Ducher, Marquis of Londonderry, and Comte Raimbaud. Mr. B. R. Cant, Colchester, was second; and Messrs. F. Cant & Co., Colchester, third. The winner in this class holds for the ensuing year the Society's handsome gold trophy, and wins a gold medal.

For seventy-two blooms, distinct varieties, Messrs. Harkness & Sons were again first, showing Madame J. Laing, Ulrich Brunner, Madame Montet, Marie Baumann, Caroline Testout, Helen Keller, Captain Christy, Gustave Piganeau, Marie Verdier, Jean Ducher, Horace Vernet, Duke of Edinburgh, Muriel Grahame, Camille Bernardin, Cleopatra, M. Dickson, Beauty of Waltham, Niphetos, Chas. Darwin, Marie Van Houtte, Souvenir de S. A. Prince, Ethel Brownlow, Her Majesty, Auguste Rigotard, Lady Mary Fitzwilliam, A. K. Williams, White Lady, Duchess of Bedford, Jeanie Dickson, Captain Hayward, The Bride, Madame Cusin, Earl of Dufferin, Maman Cochet, Marchioness of Downshire, Marie Rady, Comtesse de Nadaillac, Marchioness of Dufferin, Grand Mogul, Caroline Kuster, Star of Waltham, Margaret Boudet, Dr. André, Merveille de Lyon, Denmark, Mrs. W. J. Grant, Marquis Litta, Baroness Rothschild, François Michelin, Innocente Pirola, Duchesse de Morny, Marquis of Londonderry, Magna Charta, Alfred Colomb, Madame Hoste, Duke of Teck, Susanne M. Rodocanachi, H. Schultheis, Kaiserin Augusta Victoria, Souvenir d'un Ami, Maréchal Niel, Dupuy Jamain, La France, Prince Arthur, Silver Queen, and Duc d'Orleans. The second prize went to Mr. B. R. Cant. For eighteen distinct varieties, three blooms each, first, Messrs. J. Townsend & Son; second, Messrs. J. Burrell & Co., Cambridge; and third, Mr. H. Morton, Louth.

OPEN CLASSES.

For twelve blooms of any white Rose, Mr. G. Prince secured the first prize with Kaiserin Augusta Victoria; Mr. B. R. Cant the second with Marchioness of Londonderry; and Messrs. Harkness & Sons the third with the same variety. For twelve blooms of any yellow Rose, Mr. G. Prince was first with superb Comtesse de Nadaillac, and Mr. J. Mattock, Oxford, second. For twelve blooms of any light pink, Messrs. Harkness & Sons were first for Mrs. J. Laing; Messrs. Townsend and Sons, Worcester, second with the same variety; and Messrs. A. Dickson and Sons third with charming blooms of Lady Moyra Beauclerk. For twelve blooms any crimson Rose, Messrs. J. Townsend & Son were first with Gustave Piganeau; Mr. B. R. Cant second with Ulrich Brunner; and Messrs. F. Cant & Co. third with Capt. Hayward.

The garden or decorative Roses were an especially fine feature of the show. With the object of bringing to the front the best decorative Roses, all H.P.'s (except the single varieties), all Teas, Noisettes, and Hybrid Teas mentioned in the National Rose Society's catalogue are excluded from this class, whilst Moss, Provence, and other summer flowering Roses may be exhibited in it. For eighteen distinct varieties, not less than three trusses of each, the space occupied by exhibit not to exceed 6 feet by 3 feet, the first prize was awarded to Messrs. Paul & Son, Cheshunt, whose arrangement was very effective. Especially striking were Marquis of Salisbury, L'Idéal, Crimson Rambler, Wm. Allan Richardson, Camoens, Royal Scarlet, Céline Forestier, White Bath (Moss), Mignonette, Blanche Moreau (Moss), Alister Stella Gray, Rosa Mundi, Anna Maria de Montravel. H. V. Machin, Esq., Worksop, was a close second. Noticeable in this exhibit were Beauté Inconstante, Gustave Regis, Camoens, Perle d'Or, Madame Pernet Ducher, and Homer. Messrs. Cooling & Sons, Bath, were third. For a display of Roses to be arranged on a space not less than 6 feet by 3 feet, or more than 12 feet by 3 feet, Mr. Geo. Prince was placed first. A remarkable feature of this exhibit was a number of superb Comtesse de Nadaillac grouped in the central foreground. Second Messrs. J. Townsend & Son, and third Miss Mellish, Worksop.

AMATEURS.

In the extra class for twenty-four blooms, in distinct varieties, the Society's trophy and gold medal were awarded to E. B. Lindsell, Esq., Hitchin; second the Rev. J. H. Pemberton, Havering. For thirty-six blooms, distinct, first E. B. Lindsell, Esq., and second the Rev. J. H. Pemberton. For eight distinct varieties, three blooms of each, first E. B. Lindsell, Esq.; second the Rev. J. H. Pemberton, and third H. V. Machin, Esq. The class for twelve blooms, distinct varieties, was a good one. Noticeable in the first-prize stand, exhibited by Mr. Geo. Moules, Hitchin, were good examples of Mrs. J. Laing, Marchioness of Londonderry, Cleopatra, A. K. Williams, Susanne Marie Rodocanachi. Mr. R. Hobbs, Worcester, was second, and Mr. J. Marsden, Carnforth, third. For six blooms of new Roses the Rev. J. H. Pemberton secured the first prize with Souvenir de Madame Eugène Verdier, Countess of

Caledon, Marjorie, Mrs. W. J. Grant, Madame Cadeau Ramey, and Tom Wood. Mr. J. Bateman was second, his best blooms being Lawrence Allen and Ethel Richardson.

In the Tea and Noisette section, for twelve blooms, distinct varieties, Mr. A. Hill Gray, Bath, was first with fine specimens of Catherine Mermet, alba rosea, Bridesmaid, Maréchal Niel, Comtesse de Nadaillac, Souvenir d'un Ami, Innocente Pirola, Souvenir d'Elise Vardon, Modesto, Cleopatra, and Maman Cochet. Mr. G. Orpen was a good second, and Mr. E. B. Lindsell third. For nine blooms of any one variety Mr. Orpen was first with Souvenir de S. A. Prince; Mr. E. B. Lindsell second with Caroline Kuster; and Mr. A. Hill Gray, Bath, third with The Bride.

For three trusses of any new seedling Messrs. A. Dickson & Sons secured the Society's card of commendation for Alice Grahame; and for their new Roses, Mrs. Edward Mawley and Mildred Grant, to each variety the Society's gold medal was awarded. Messrs. James Cocker also received a similar award.

LOCAL SECTION.

This was open to amateurs residing within forty-five miles of Halifax. For twenty-four blooms, distinct varieties, first, H. V. Machin, Esq.; second, J. T. Marsden, Esq.; and third, Miss Mellish, Worksop. For twelve blooms, distinct, first Mr. H. Stewart, and second Mr. G. Hodgson. Mr. H. V. Machin secured the silver medal for the best box of Roses. The bouquets of Roses were a conspicuous and attractive feature of the Show.

ELTHAM.—JULY 14TH.

THE Eltham Rose and Horticultural Show was held on Thursday, July 14th, in the grounds of Eltham Court, and in point of merit will compare favourably with former shows, although the entries were not quite so numerous in some of the classes.

For eighteen Roses, distinct, C. E. Shea, Esq., Foots Cray, was placed first with a fresh even stand of the following—Her Majesty, Margaret Dickson, Comtesse d'Oxford, Madame G. Luizet, Etienne Levet, Mrs. J. Laing, Caroline Testout, Helen Keller, Mrs. R. G. Sharman Crawford, S. M. Rodocanachi, Louis Van Houtte, Ulrich Brunner, Victor Hugo, Comtesse de Nadaillac, A. K. Williams, The Bride, T. Mills, Madame Lambard. Mrs. Browning was second, and Mr. A. Bryans third. For twelve single trusses, distinct, Mr. Shea was again first; Mr. North second, and Mr. Bryans third. There were ten exhibits in this class. In the class for four triplets, Mr. Shea was first with Mrs. J. Laing, Marie Baumann, Ulrich Brunner, and François Michelin. Mr. Wilkins was second, and Mr. North third.

For six distinct, Mr. Bryans was placed first with Baroness Rothschild, Ulrich Brunner, Marquise de Castellane, Marie Baumann, Duke of Edinburgh and Général Jacqueminot. Miss Moore was second, and Mrs. Bloxam third. For six Teas or Noisettes, distinct, the Rev. N. Rowsell was first with small but neat blooms of Ernest Metz, The Bride, Catherine Mermet, Jean Ducher, Princess of Wales, Souvenir d'Elise. Mr. North second, and Mr. Wilkins third. For six of one variety, Mr. Bryans was first with Mrs. J. Laing; Mr. Browning second with Ulrich Brunner; Mr. Robins third with Margaret Dickson.

In the open class for forty-eight, distinct, Messrs. D. Prior & Son, Colchester, were first with Marchioness of Londonderry, Gustave Piganeau, Comte Raimbaud, Lady M. Fitzwilliam, Susanne Marie Rodocanachi, Caroline Testout, Ulrich Brunner, Mrs. J. Laing, Marquise de Castellane, Her Majesty, Alfred Colomb, Marchioness of Dufferin, A. K. Williams, Earl of Dufferin, Mons. E. Y. Teas, Marie Verdier, Etienne Levet, The Bride, François Michelin, Merveille de Lyon, Comtesse d'Oxford, Comtesse de Nadaillac, Marie Finger, Medea, Heinrich Schultheis, Star of Waltham, Innocente Pirola, Marie Baumann, Maréchal Niel, Madame V. Verdier, Madame Cusin, Marquis Litta, Ethel Brownlow, Prince Arthur, Catherine Mermet, Captain Hayward, Kaiserin Augusta Victoria, and Marchioness of Downshire. Mr. J. R. Box was second. For eighteen, distinct, Messrs. Prior & Son were again first, and Mr. Box second.

For twelve Teas or Noisettes Messrs. Prior & Son were placed first with Maman Cochet, Comtesse de Nadaillac, Madame de Watteville, Innocente Pirola, Souvenir de S. A. Prince, Medea, Rubens, The Bride, Catherine Mermet, Madame Cusin, Maréchal Niel, and Ernest Metz. Mr. J. R. Box was second.

In the ladies' classes for a basket of Roses Miss A. Bloxam was first, Mrs. A. Bryans second, and Miss Roberts third. For a centrepiece, Roses excluded, Miss A. French was placed first for a simple arrangement of Shirley Poppies and Grasses, and Miss Bryans second. For a dinner-table decoration Miss N. Hall was placed first for a very light arrangement of Sweet Peas, Gypsophila, and Grasses, the second going to Miss Rawlinson, having Sweet Peas, Carnations, and Gypsophila, and the third to Miss A. French. Cut flowers, plants, vegetables, and fruits were also splendidly staged, but unfortunately the pressure on our space precludes particulars of the exhibits being given.

In the miscellaneous exhibits, not for competition, Messrs. J. Laing and Son, Forest Hill, had a splendid exhibit, in which cut Roses were well shown. The same firm also exhibited a group of foliage and flowering plants, herbaceous flowers, and a table of bouquets and other devices. Mr. John R. Box, Croydon, contributed a collection of hardy flowers, and Mr. H. Eckford, Wem, Salop, had a splendid exhibit of Sweet Peas. Mr. J. Poole, gardener to A. G. Hubbock, Esq., Chislehurst, sent a group of plants, Cucumbers, and Peas; and Messrs. Paul & Son a group of cut flowers.

NEW BRIGHTON.—JULY 16TH.

No more pleasant way of spending a half holiday could be devised than the charming Rose Show arranged by Dr. Bell, one of the most popular residents of New Brighton, who generously places his garden at the disposal of visitors. He is able to draw a company comprising all the best families in the district, who work so assiduously in the cause of charity, and the sum of £25 to £30 each year has been handed over to the Treasurer of the Wallasey Cottage Hospital. J. R. Bulley, Esq., the Hon. Secretary, seconds the worthy doctor, both working for the success of the show in every possible way.

In the open classes the two firms of Messrs. Alex. Dickson & Sons, Newtownards, and Dicksons, Ltd., of Chester, met, but the Irish blooms had no hard task in winning every class, even although some good blooms were seen among the Chester stands. For forty-eight, distinct, Messrs. Alex. Dickson & Sons had an exceptionally choice stand of finely formed blooms of Bessie Brown, Susanne Marie Rodocanachi, Mrs. R. G. S. Crawford, John Stuart Mill, Her Majesty, Gustave Piganeau, Mrs. J. Laing, Alfred Colomb, Caroline Testout, Earl of Dufferin, Mrs. W. J. Grant, Comte Raimbaud, Ulster (grand), Ulrich Brunner, Marchioness of Londonderry, Marquis Litta, Kaiserin Augusta Victoria, Duchesse de Morny, Souvenir de S. A. Prince, Alphonse Soupert, Marchioness of Downshire, Duke of Wellington, Madame de Watteville, Annie Wood, Muriel Grahame (probably the best bloom in the Show), Horace Vernet, Marchioness of Dufferin, Duke of Fife, Lady Moyra Beauclerk, Etienne Levet, Golden Gate, Mrs. Edward Mawley, Victor Hugo, Mildred Grant (seedling, excellent), Madame Charles Crapelet, Duchess of Portland, Dupuy Jamain, Madame Delville, Thomas Mills, Lady Clanmorris (quite a model bloom), Oliver Delhomme, Souvenir d'Elise Vardon, Prosper Langier, Miss Ethel Richardson, Jeanie Dickson, Helen Keller, and Souvenir d'un Ami. Messrs. Dickson, Ltd., Chester, were second, the best blooms being Spenser, Clio, Her Majesty, Margaret Dickson, Mrs. R. G. S. Crawford, Marchioness of Dufferin, Lady Mary Fitzwilliam, and Mrs. W. J. Grant.

In the class for twenty-four trebles Messrs. Alexander Dickson and Sons staged no fewer than twelve varieties of their own raising, which completely took the visitors by storm. Caroline Testout, Earl of Dufferin, Muriel Grahame, Horace Vernet, Mrs. W. J. Grant, Dr. Andry, Mildred Grant, Ulrich Brunner, Ulster, Souvenir d'Elise Vardon, Alphonse Soupert, J. S. Mill, Mrs. J. Laing, A. K. Williams, Mrs. R. G. S. Crawford, Mrs. David McKee (new), Souvenir de S. A. Prince, Captain Hayward, Mrs. Mawley, Tom Wood, Marchioness of Downshire (splendid), Charles Darwin, and Countess of Caledon were represented. Messrs. Dickson, Ltd., were a good second, having Mrs. W. J. Grant, Clio, Mrs. J. Laing, Marchioness of Downshire, and Marchioness of Londonderry (excellent).

For twelve Teas or Noisettes Messrs. Alexander Dickson & Sons were the only exhibitors, the same firm, with magnificent Mrs. W. J. Grant, winning the class for six any light or dark variety.

Amateur classes were loyally contested, six stands of twenty-four distinct competing, E. B. Lindsell, Esq., Bearton, Hitchen, winning with a heavy stand the first prize and N.R. Society's gold medal; Muriel Grahame, Madame Cusin, Innocente Pirola, Her Majesty, Maman Cochet, Catherine Mermet, and Madame Hausmann being capital. W. Boyes, Esq., Derby, was a fine second with Gustave Piganeau, Mrs. J. Laing, Mrs. W. J. Grant, White Lady, and Denmark as the best; H. V. Machin, Esq., Worksop, was a good third. Four staged eighteen distinct, Mr. Lindsell winning in fine style, with Messrs. Machin and Boyes as followers. Messrs. Lindsell and Machin were first and second for twelve Teas or Noisettes, distinct. For six, any light H.P., some grand examples of Mrs. J. Laing secured Mr. Machin the prize, Mr. Boyes winning the dark variety class with Gustave Piganeau, Messrs. Lindsell and Machin following with Her Majesty and Ulrich Brunner. Among local amateurs there was a strong competition of six, Captain Weaver winning first and the National Rose Society's bronze medal with an even stand.

T. R. Bulley, Esq., an enthusiastic hardy plantsman, won with a very handsome twenty-four distinct hardy perennials, Mr. Fell following. In the smaller class, Dr. Bell won, a fine Lilium Browni being conspicuous, another local class being taken by A. J. Mease, Esq. Mr. Bulley had a choice twelve Carnations. The stand of herbaceous plants and Sweet Peas (not for competition) from Messrs. Alex. Dickson & Sons was superb, everything being arranged in excellent taste. A capital collection of tuberous Begonias were staged by Mr. C. Finningan, New Brighton.

FRUIT PESTS.—Noticeable among the many enemies with which fruit growers have to contend with this season are the ravages caused by the lackey and ermine moths. A few weeks ago their silken webs, containing colonies of ravenous larvæ were to be seen adhering to the tips of young shoots of Apples and Plums, and though the pests have now passed from this stage, the brown lifeless tips are left as traces of their depredations. The caterpillars are now falling from the trees, and may be seen crawling in all directions. In the case of dwarf trees the destruction of these pests is not a difficult matter, but with tall orchard trees the question of time and labour has to be considered, and on this account they are often allowed to thrive and multiply. So bad have been the attacks in some districts that trees are almost defoliated, and there are thousands of caterpillars to carry on the work of destruction in the future unless Dame Nature intervenes on behalf of the fruit trees.—G.



WEATHER IN LONDON.—The heat in London since last Wednesday has been most oppressive. On both Friday and Saturday over 80° were registered in the shade, but on Sunday it was slightly cooler. Monday again was a scorching day; but in the evening came a few clouds that brought rain during the early hours of Tuesday morning, and though little rain fell it continued fairly cool as it did on Wednesday.

— **ROYAL HORTICULTURAL SOCIETY.**—The next Fruit and Floral meeting of the Royal Horticultural Society will be held on Tuesday, July 26th, in the Drill Hall, James Street, Westminster, 1 to 5 P.M. Bamboos will be a special feature at this show, and at 3 o'clock Mr. A. B. Freeman-Mitford, C.B., will lecture on the "Economic Uses of Bamboos."

— **THE SCARCITY OF PEARS.**—Though the promises of a good Pear crop could not well have been better, there appears to be a scarcity of fruit, this probably being due to the spell of bad weather experienced when the trees were in bloom. When in conversation with a large grower in a Pear-producing district of Kent, I was informed that in his orchards most of the fruit had fallen directly after setting, and other growers in the district had suffered more or less seriously. Trees under the protection of walls in gardens appeared to have fared better, and under such conditions there are in some places good crops of fruit. It is only in chosen districts that Pears can be grown as a profitable crop, and it is from these that the demand of the market is supplied. On this account the partial failure of the crop must have its effect on prices later on.—G.

— **WOBURN FRUIT FARM.**—At the invitation of Spencer Pickering, Esq., F.R.S., director of the Woburn Experimental Fruit Farm, a party of representative horticulturists assembled at Ridgmont on July 13th to inspect the plantations and note the progress that has been made in the past four years. The visitors spent a considerable time in an examination of the trees and discussing the results of the experiments, which are now very marked in some cases, particularly in the plots where trees planted in grass are contrasted with those in ordinarily cultivated ground. The party was entertained at lunch, and subsequently, by permission of his Grace the Duke of Bedford, was taken in carriages through Woburn Park to the Abbey and conducted through the grounds and principal rooms. The weather was fine, and a most enjoyable day was spent by all.

— **GREEN GOOSEBERRIES.**—For some weeks past green Gooseberries have been very plentiful in the market, and commercial growers have been in a state of satisfaction and complaint over the crop. The earliness and heavy crops of fruit have been responsible for the former state of affairs, and low prices have given the grower his grounds for complaining. Bushes generally are clean, and plantations have suffered little from attacks of the caterpillar, while the rain has had its effect in keeping at bay the destructive Gooseberry mite, which is often responsible for the death of old and nearly spent bushes. Green Gooseberries are the first fruit to claim the attention of the market grower, and with them the season begins. This picking consists of thinning out the fruit, leaving part of it to ripen for gathering later. All varieties appear to be bearing well, but the majority of those picked for the early market are Crown Bobs.—H.

— **PHILADELPHUS LEMOINEI.**—Of the many dwarf shrubs suitable for beds in prominent places, few give greater satisfaction than this. It is an accommodating plant, being equally at home and attractive in large or small gardens, whether represented by a single specimen or by a large group. At Kew a bed near the temperate house is now a mass of graceful, arching, flower-laden shoots, its strong, sweet scent making its presence known at a considerable distance. To get it at its very best it requires a fairly severe pruning every year after flowering. As soon as the flowers are over all flowering shoots should be removed or cut back to a strong break; this encourages strong shoots from the base, which grow to a length of 2½ to 3 feet, and produce flowers the following year from almost every node. When planting, fairly rich loamy soil should be given, rather light than heavy. As it roots readily from cuttings a stock can be quickly raised.—D.

— **THE CELERY FLY.**—This pest has made its appearance early this season, and infested leaves were noticed long before the earliest plants were large enough to be transferred to the trenches. The other day I noted a bed of seedlings where the foliage generally was brown and seared, and grubs reclining under the outer tissues of the leaves. It is not usual for plants to be attacked at such an early date, but it is evidence of the abundance of the pests. The usual dustings of soot and lime are being applied to prevent further attacks, but the pinching of the leaves to destroy the grubs is the only course open with the plants already infested. The earliest plants that are now growing vigorously appear to be overcoming the enemy, though it has had the effect of throwing them back.—V. T.

— **RAFFIA FOR TYING.**—Many gardeners use raffia who may not know its origin. The information is given in "Meehan's Monthly:"—Various materials are in use for tying in grafts or buds, but none the equal of raffia. It is broad, soft, and pliable, and does not bind the bark as readily as others. Bass bark was once the popular material for these purposes, but it was less convenient, requiring wetting at the time of using. Raffia is procured in long plaits, the strands of which are cut up into desired lengths. It is the product of the leaves of a Palm, *Raphia pedunculata*, which grows only in Madagascar. The quality is chiefly shown in its colour, which should be of a brownish white. It is also used for the general tying of plants.

— **PTELEA TRIFOLIATA.**—Although not so showy when in flower as some of our hardy trees, this plant is worth a place in the shrubbery, both on account of its fragrance when in blossom, and its curious fruit afterwards. It is usually met with as a bushy headed tree 10 to 12 feet in height, though it often gets much taller. Its leaves are bright green, trifoliate, and long-stalked, the divisions of the leaves being 3 to 4 inches long and ovate. The flowers are small, greenish yellow, and fragrant and are produced in large corymbs from the ends of the branches. The fruits are thin and membranous, containing one seed in the centre. They are often three-quarters of an inch across, and have rather a striking appearance when blown about by the wind. It is a native of the United States, and grows quite readily in almost any soil or position.—K.

— **CYTISUS NIGRICANS.**—This is one of the best of the summer flowering members of the family, and where planted in masses it is now making a fine sight. It is a European species, with very dark green foliage, and slightly glaucous or silvery stems. The flowers are produced in long, terminal, somewhat conical racemes, which often exceed 1 foot in length. They vary slightly in colour, but are usually deep yellow with a tinge of green. From the apex of the raceme a new leafy shoot is often formed. To be grown well it should be given fairly good loam, and the growths should be cut back to within a few inches of old wood each spring. By this means bushy plants are formed, and much better racemes are produced than if allowed to grow without pruning; in addition to this the plants are kept healthier. As soon as the plants show signs of deteriorating—which they are almost sure to do in a few years—seeds should be sown, and a fresh start made, young plants always being more satisfactory than old ones.—W. D.

— **CANNAS.**—It is unfortunate for these very beautiful flowering plants that they are seldom seen to good effect at exhibitions. Almost always they are arranged in stiff groups with the flowers fashioned to constitute an even flattish semicircular face, in which it is true the plants are seen, but the general effect is exceeding stiffness and formality. Yet these plants are singularly capable of producing a most pleasing as well as brilliant effect when properly arranged. This was forcibly borne upon me a few days since, when Mr. Cannell opened the door of one of his long span houses at Swanley, and asked me to look in. There, arranged on each side, were many hundreds of plants, all in bloom and of varying heights, fronted by *Isolepis* and other suitable foliage plants, the whole presenting a sight that might well be described as fairy-like. Would that we could see Cannas as charmingly arranged at shows. To tell of the varieties to be seen at Swanley would be to exhaust the whole list of what are the best in commerce. Many are wonderfully fine, but I liked the rich deep reds and crimsons and the pure yellows best. It was, too, interesting to note in what comparatively small pots, and at such moderate heights, these plants will bloom. To arrange them at a flower show with special effect no doubt a dozen or so clumps of plants, say five plants in each clump, of the same variety, placed informally amongst Ferns or other bare foliage plants, would have a beautiful appearance. Grouping Cannas alone and in the customary mixed way with a flat, formal, half-circular face is about the worst method possible to create an eye-catching effect. No doubt ample room is needed for such free grouping as desired, but it is by far the most desirable.—A. D.

— PHORMIUM HOOKERI.—A specimen of this New Zealand plant is at present bearing two fine spikes of flowers in the temperate house at Kew. Grown in pots it makes a useful plant for decorative purposes, but planted out in a cool house it is seen to much better advantage. The plant at Kew is growing in light loam, and looks perfectly happy. The Sedge-like leaves are leathery and glossy; the largest are 7 feet in length by 3 inches in width, and arch gracefully. The flower spikes are 7½ feet long, stout and purple, with a slight glaucous covering. The flowers are produced in flattened branches, at intervals of a few inches, on opposite sides of the upper part of the stem. On each of the side branches there are twenty or more flowers. They are tubular, 2 inches in length, with short purple stalks. The outside segments are yellow with a slight tinge of red on the outer side, the inner being green. From the mouth of the perianth the stamens, which are purple, with golden anthers, protrude about half an inch, the contrast between the whole being very striking. Near this plant a specimen of the variegated form of *P. tenax* is to be seen producing leaves 8 to 9 feet in length, and a flower spike 10 feet high. Whether in or out of flower *Phormiums* are striking objects, and are well worthy a place a cool greenhouse.—D. K.

— BLIGHTED PLUM TREES.—It cannot be said that the early promise of a prolific fruit season has been fulfilled to the expectations of growers generally; and though in some places trees are well laden, in others there are complaints as to the scarcity of the crops. For the abundance of insect and aphides pests the season is remarkable, though here again the way in which they are confined to localities is singular. In some districts the condition of Plums and Damsons is pitiable, owing to the multitude of aphides that infest and spoil the foliage. In many orchards the leaves are curled and wrinkled by attacks of these pests; much of the fruit has fallen, and it is only reasonable to suppose that the remainder will be undersized and of second-class quality. The welfare of the trees must also suffer, as under such conditions it is impossible for the growth to be strong and vigorous. In other neighbourhoods a much better state of affairs exists. Trees are in a clean healthy state, and well laden with fruit. Probably this irregular distribution will have its effect in keeping prices up, and those who are fortunate enough to have good crops will be the gainers. The other day I visited two plantations a few miles apart. In the one trees of Victoria, Green Gage, Pond's Seedling, and other varieties were showing good crops, and the foliage clean and healthy. In the other most of the fruit had fallen, and the crippled and infested foliage told its own story of the disastrous effect of the plague of aphides.—KENTISH MAN.

SHAKESPEARE AS GARDENER.

Is gardening study enough for a gardener? Is there within its limits an all-embracing, all-nourishing pabulum, sufficient for his every intellectual need? There is an element of the paradoxical, perhaps even of the grotesque, in such a question. What should a gardener study, it may be asked, if not gardening? Horticulture, as applied to the management of great gardens is, it might be urged, so many-sided, that a man must have an omnivorous appetite for knowledge who cannot satisfy himself with it. On the other hand, the groove danger is a very real one, and mental vivacity is frequently sacrificed on the altar of restriction.

In reading such a book as Canon Ellacombe's *Plant Lore and Garden Craft of Shakespeare*,* one of the most impressive thoughts is the universality of knowledge possessed by the matchless writer. We have been told of the amazing circle of technical subjects of which Shakespeare had intimate knowledge. He was familiar with every trade and every profession. Not so very long ago, but just long enough to forget the order, I read a string of the parts in his wonderful repertory. He was, I remember, a lawyer, a chemist, a doctor, an astronomer, and a whole host of other things, and his knowledge was not a casual and unreliable smattering, it was invariably sound and often profound. "Gardener" was not, I think, included in the list, yet no one reading the good Canon's delightful volume can doubt that Shakespeare was, in knowledge and sympathy, a true gardener. How did the Bard acquire these varied intellectual resources? By inspiration? By intuition? Impossible to believe it. He equipped himself by enormous labour. As Mr. Gosse remarks in *Modern English Literature*, "the old notion that William Shakespeare was an untaught genius, warbling his wood-notes wild, has long been discarded. We now perceive that he was 'made' not less than 'born.'"

My object in presenting this aspect of a man whose very greatness appeals, is to show that the humblest worker has as deep and living an interest in a book like this as any college-equipped student. There are people whose whole lives are devoted to the study of Shakespeare. They have, many of them, means and leisure, so that there is nothing between them and their desire. But not a man of them, however favoured by fortune, can learn a richer and nobler lesson than the young gardener who, by a little self-denial, provides himself with the means of communing,

through the medium of his own calling, with the mightiest genius that has arisen to interpret and instruct mankind.

Resisting the almost overpowering impulse to cull blossoms from this garden of sweet and opulent wisdom, I pay the tribute which must spring from the heart of every learner to the good Canon for a great work greatly done, and bespeak for his volume the careful and reverent study which it so well deserves.—W. P. W.

GROWING CARNATIONS.

THOSE who cultivate Carnations have at present their attention engaged by two matters, the one to secure large blooms, which are always the clearest or most brilliant in colouring, the other the production of stock for another year. Let us first discuss the former of these, and afterwards the latter. The complaint this year is not uncommon that outdoor plants wintered badly; still there must be many that have done better than the generality, and where these are producing flowering stems too profusely it is safe to reduce the number to four or more, according to the strength of the plant, but not exceeding eight in all. We are slow to learn that quantity and quality are antagonistic. Reducing the number of stems and thinning the grass contribute to quality, but it is only by removing superabundant buds, most of which, judged by the above standard, are worthless, that the desired effect is obtained. Possibly to those who have not attempted disbudding, the process where the number of plants cultivated is large may appear one of some magnitude, and not to be lightly undertaken. As a matter of fact, an hour spent among the plants will see several hundreds relieved. The easiest, and also the best method, is to take each bud to be removed between the finger and thumb, and pull it out, not break it off.

With regard to layering, the practice of putting down the grass at the earliest moment after it has arrived at a condition fit to manipulate, is spreading. Early layering is in fact one of the little items in the total that go far to make Carnation culture a success. It must of course be followed by early planting, which is as important as the other. Layering itself is to the initiated so simple an operation that any remarks on the subject may be considered as almost superfluous. But my experience goes to show many young gardeners to be not only inefficient, but sometimes ignorant altogether of details. Like all matters connected with gardening, a little sound judgment is invaluable. The more mature growths will be first put down, the immature left to the last or to another occasion. There will be scope for some discretion as to the addition of material to influence rooting. For example, if the garden soil is light and open in texture, early layers will succeed perfectly in that. Very late layers, when time is all-important, on the other hand, root more rapidly, and form a cluster of rootlets more certainly when equal parts of fine peat and sand are employed as a rooting medium.

These, however, are both extremes. Sometimes one notices the base of the plants surrounded by mounds of soil, into which the layers are pegged. It is a method of which I do not approve, and where the young shoots are so far up the stems as to require means being taken to bring them and the soil closely together, I find it much the better way to firmly peg down the whole plant, and thus bring all the "grass" close to the soil. As a rule all such plants are thus pegged down previous to staking. Then there are varieties, of which Ketton Rose is an example, where the layers are easily pulled away from the stem when being pegged down. Clumsy operators invariably destroy a number of layers in this way, and even those who are clever manipulators not infrequently cause losses.

By following the under-noted method these losses are avoided. When the slit has been made which produces the tongue, before pressing the last named into the soil with a peg, which is the great cause of loss, take the layer between finger and thumb, and with a double movement press it gently upwards against the parent stem, while drawing the tongue towards the soil, into which it is fastened by the peg. By the same method the growths of some varieties may be safely brought down several inches, but in this case in order to be sure that the shoot is not torn off the stem, a kind of fulcrum is formed by placing a finger of the left hand underneath it while the tongue is being pegged into position. The result in this example is that the shoots start slightly upwards and outwards, and arch over the finger, going thence straight down to the soil. When layering always arch the shoots connecting the plant with the layer.

I may be permitted to add that last year I planted the great majority of our Carnations on beds raised above the surface. For some years this has been my practice with yellow and yellow ground sorts. I am glad to say it suits all others equally well. The beds are raised by making the alleys between each somewhat wider than usual, and with the material the beds are raised a few inches. Some 2 inches of light material and sand are also added, and a bed holding four lines of plants and raised about 8 inches above the level is the result. The invariable fear of those who have seen the beds has been that the plants would be dried up. As a matter of fact, by giving a greater depth of fertile and especially friable soil its moisture-holding capacity has been increased. Above all, the plants have thriven, and the terrible scourge that has done so much harm to Carnations in all parts of the country has been kept at bay.

Of course, I am not quite satisfied that these raised beds are everything they might be, and I hope to improve somewhat on those for the current year's planting. The principle, however, is a right one, and I am certain no one who is troubled with disease in Carnations during the winter and spring months need hesitate to adopt it.—R. P. BROTHERSTON.

* The Plant Lore and Garden Craft of Shakespeare, by Henry N. Ellacombe, M.A. Edward Arnold, price 10s. 6d

WARTER PRIORY.

THE county of Yorkshire has always been renowned for the many beautiful domains that are scattered abundantly over its broad acres. Amongst the most noted of them is Warter Priory, the residence of Charles H. Wilson, Esq., M.P., whose name, with that of Mr. Arthur Wilson of Tranby Croft, has become world-renowned as the leading lights in the great shipping line that bears their name. In a future issue

Myrtles, Palms, and other stately growing plants, immense Hydrangeas, and clumps of Bamboos, all of them features in themselves. Then there are three old Yew trees in a group beneath whose shade there is space enough to dine a small regiment. They are beautiful specimens, and must have long occupied their present position. A gravestone finds a place in the centre, and from the date on this it was thought an idea might be got as to the age of the trees, but despite assiduous search, neither names nor figures could be decided. The weather had told

its tale, and the characters thereon were well-nigh obliterated. Reverting to the Hydrangeas which, as may be seen in the illustration of the garden, are very numerous, and are most effective when they have all their flowers expanded, which was not the case in the middle of June when this visit was paid. On some of them there have been, in past seasons, upwards of 150 fine heads of flowers.

The bedding is simple, yet handsome, the customary plants being skillfully utilised to produce a harmonious change in the smooth lawns and bold stone balustrades with their vases of brightly flowered plants. Speaking of vases reminds of a flight of stone steps leading from the mansion to the tennis grounds and lawns, and on each side of which Roses are grown. These are singularly beautiful, and will

be much more so when the Crimson Rambler plants that are just becoming established cover the stones on each side with deep green leafage and brilliant crimson flowers. The Rose garden is of very considerable extent, and was newly made some two years ago. Previous to the renovation the plants did not thrive successfully, owing to stagnant water that percolated through from the rising ground beyond. Mr. Pike therefore determined to drain the whole area, and in making excavations for the purpose came upon well-made gravel paths about 3 feet below the surface, pointing conclusively to the fact that at some previous time a sunken garden had occupied the site. All Roses are now doing grandly, and will be even better in the course of another year, for they are carefully tended. They produce abundance of flowers, and none is more floriferous than the old, universally admired La France, with its deliciously fragrant blossoms.

Round each of the Rose beds is a broad patch of Violas, mostly yellow, purple, and white, and as they were just passing their best beauty a somewhat drastic course was being pursued with them. This consisted in going over all with a pair of hedge shears, and cutting them off close down to the ground, bushels of leaves and flowers being of course shorn off in the process. Naturally, they present a rather bare appearance at first; but new growths soon push, and a magnificent late summer and autumnal display is insured. It was done in the first place because the plants practically flowered themselves to death, and was found to be so extremely successful that it has since been annually continued. A very beautiful specimen of the Weeping Beech is conspicuous on the margin of the lake at the foot of the lawn. All the growths hang most gracefully, especially those immediately over the water, where some of them are quite 30 feet in length. So far as could be seen there was not a single growth from the main branches that made any pretence of taking an upward route, and as the tree is of great age and considerable size it is a very telling ornament.

Several long rows of Sweet Peas behind a border of herbaceous plants told forcibly of the popularity of these sweet-scented flowers. They were making splendid growth, and would doubtless produce thousands of blooms from the many varieties grown. As the members



Photo by Mr. Wm. Martin, Hull.

FIG. 8.—WARTER PRIORY.

it is proposed to give a few paragraphs anent Tranby, but for the present Warter Priory only will be spoken. The two estates could scarcely be combined in one article, for their characteristics are so different, and the material for observation so abundant in each, that justice would certainly not be done to either. The estate from which the Priory takes its name is undoubtedly a very old one, but no vestiges of the original Priory now remain. There is an avenue called the Nuns' Walk about a mile from the mansion, and close to the village of Nunburnholme, where there was a nunnery, and local tradition says that there was in the "good old days" an underground tunnel leading from the nunnery to the Priory, and many even go so far as to assert that it still remains. This, however, is most unlikely, for Mr. Pike, who acted as our guide, is very sceptical on the point, not being able to find any record of its existence.

Whether there was a tunnel or not matters little to us now, for it is certain that the Priory of to-day is handsomer than the old one, and most people would consider it far more interesting. A portion of it was erected by Lord Muncaster, from whom Mr. Wilson purchased the estate, but immense additions have been made, and the structure is now an exceptionally ornate one. Only a small portion of this is shown in the illustration (fig. 8), which the courtesy of Mr. W. E. Martin of Hull permits us to reproduce. Broad and varied scenes may be admired from the windows and the terrace shown in the picture, while an idea of the charm of the more immediate surroundings may be got from the second picture, which was taken by Mr. Martin at the same time as the first. Both the photographs are interesting, the second one being particularly comprehensive, for it extends from the terrace over the lawns, flower and Rose gardens to the vegetable quarters and glass houses in the distance. The head gardener, Mr. A. F. Pike, may be seen on a seat in the foreground of fig. 8.

The flower gardens and pleasure grounds in the vicinity of the mansion are very charming, and in places exceedingly picturesque, where beyond cultivated plants and trees, vistas are caught to the wooded heights beyond. On the lawns and terraces alone there is pleasing diversity secured by beds of various forms and sizes, Yews, large tubs with

of the family have a partiality for gathering the flowers Mr. Pike lays straw between each row, which serves the double purpose of making a clean path for the ladies and conserves the moisture during dry weather. For cutting purposes hardy plants are largely employed, more particularly Roses, which abound everywhere. It is comparatively seldom that one sees a fruit and Rose garden combined, but such is an established fact at Warter, and very beautiful it is. Between the rows of fruit Roses have been planted, and are attached to strained wire trellises; as the rows are very long, openings are left at convenient intervals for accelerating cultural operations. Along the sides strong growing garden or decorative Roses are trained over wires and chains, and produce with the others abundance of material for cutting, while the fruit trees are equally useful from a utilitarian point of view.

The amount of fruit grown out of doors, both in the open and on the walls, is very extensive, and, as a rule, thrives wonderfully well. All kinds, save Peaches and Nectarines, are represented, and there is practically nothing to choose between them, for they all do well. Small fruits receive an equal amount of attention with the larger ones, Strawberries being extensively cultivated. At Warter as elsewhere Royal Sovereign Strawberry is highly esteemed, as is Dr. Hogg. Though the soil does not from its appearance promise anything above the average, thorough treatment, both mechanically and in the form of manure, renders it capable of producing annually fine crops of fruits and vegetables. All vegetables in the various quarters look healthy and clean, and the quantity of each that is grown is great, as the demand in such an establishment as is maintained here is never ending. But quality is an equal desideratum with quantity, coarse produce being worse than useless, as it occupies valuable ground that should be carrying profitable crops.

The glass department is very extensive, and comprises fruit and plant houses, stocked with all that may be required. In fig. 9 a glimpse may be caught of the roof of a magnificent span-roofed range, which has a length of 320 feet, with a breadth of about 35 feet. It contains principally Peaches, Nectarines, and Grapes of many varieties, the latter being particularly fine. Indeed, this is the case with the Vines in each of these and the other houses devoted to them, for though they must year by year carry weighty crops, the careful attention that is accorded to them maintains the good health and vigour that are essential to success. Muscat of Alexandria and Black Hamburgs are most numerous, but several others are grown for the sake of change, with Lady Downe's for late use. The Peach and Nectarine trees also had many hundreds of fruits on the splendid wood. Black fly has been troublesome this spring, and rendered it necessary to take immediate measures ere the pest had time to do material damage to the trees. Fortunately it was attacked in time, so that little or no harm is likely to accrue.

There are several lean-to fruit houses that are quite unheated, and in which Mr. Wilson takes keen personal interest, as indeed he does in the whole garden. In them are grown Apricots, Pears, Plums, and an excellent collection of Brambles, consisting of practically all the best varieties. It is surprising what an amount of fruit is gathered from these structures (which it was understood were built from Mr. Wilson's designs), and Mr. Pike spoke highly of their value and utility to him in the supply of fruit. The trees do not call for a great deal of attention, and give fine returns. There were grand crops of Pears, Apricots, Plums, and Brambles. Though

no particular mention can be made of the Cucumbers, Melons, and Tomatoes, they are all there in the best of health and condition.

The most pleasing display in the plant department at the time of this visit was unquestionably made by the Malmaison Carnations, of which a fine collection is grown. The strong healthy plants with their bold leafage and beautiful flowers were splendid, and the latter were in constant request. Orchids, too, were in considerable numbers, and those that were flowering proved the presence of good quality. To enumerate all the kinds of flowering and foliage plants that are grown would mean the occupation of a very great amount of space, and it would serve no useful purpose, for all readers of the *Journal of Horticulture* know what will be found in a properly equipped garden such as that at Warter Priory. There was in the plants and in the structures a cleanliness that bespoke of work well done, and which was a credit to the gardener and his assistants. No insect pests find a congenial home, for the motto is to be early in the attack when any makes its appearance, with the consequence that before the pest secures a sound stronghold it suffers prompt and complete eradication. The only thing that seems to mar the beauty of the plants is a sojourn in the mansion, whence they return somewhat scarred, to be coaxed back to health and strength by able and willing hands. A fairly extensive stock of Chrysanthemums is grown, and they were looking very well when they were seen about a month ago. It is almost needless to mention that the number of pits and frames that are requisite for various purposes is very great, and numerous though they are, advantage is taken of all the available space. For forcing vegetables and for the accommodation of bedding plants they are practically invaluable.

A few words about the bothy, and these notes must be brought to a close. It is built against a high wall just outside the enclosed garden, and is wholly of wood. The walls are double, and the space between is packed with sawdust to secure an equable temperature which is cool in the summer and warm in the winter. Each man has a separate bedroom, all the doors leading from one long passage that terminates in the foreman's room, which is slightly larger than the others. A wire-mattressed bed is fitted in every room, while plenty of air is insured by the space between the top of the division walls and the ceiling. There may be some liability to draughts; but it cannot be much, and the advantage of having the whole of the house clean may well be used as a set off against



FIG. 9.—THE FLOWER GARDEN AT WARTER PRIORY.

Photo by Mr. Wm. Martin, Hull.

it. Mr. Wilson, we believe, is responsible for this; and the idea was a good one, for the structure is fitted such as only too few bothies are, the comfort of the men being carefully thought out. Not a long time was spent at Warter Priory, but it was sufficient to see its many beauties, and to recognise the skill and perseverance of Mr. A. F. Pike, who has been for several years the head gardener.—H. J. WRIGHT.



WARSCIEWICZELLAS.

THIS genus commemorates the name of a Polish botanical collector, who was the means of introducing many fine South American Orchids in the middle of the present century. It only contains a few species, all of which are distinct and beautiful garden Orchids. They are rather more difficult to grow successfully than the majority of cultivated species, but with care and attention, and a study of their peculiarities, there is no reason why even a beginner among Orchids should not take up their culture with a reasonable prospect of success.

They differ from the majority of exotic kinds, in that they have no pseudo-bulbs to sustain the plant during a long season of dry rest, they being in fact tufted masses of leaves and roots from a semi-creeping rootstock, the flowers being produced singly on the spikes. Their nearest affinity botanically is *Zygopetalum*, into which genus they are placed by some botanists. Naturally they grow "in Central and South America, in moist shady positions on the lichen and mossy arms of dead and living trees." In a manner this is a clue to their culture, but one that must not be followed too literally, for it would point to a bare, or nearly bare, block of wood, and this is not good enough for them.

As a matter of fact I have seen remarkably well-grown Warscewiczellas in a compost such as is used for *Cymbidiums* and other kinds of a like habit, but I only mention this as an instance of what may be done when in good hands, and would not advise a beginner in their culture to give such a substantial compost. Better to drain well some fairly deep pans, large enough to take the plants with ease, but not larger, and for compost use three parts of sphagnum to one of good loam fibre, mixing this with an equal bulk of crocks and charcoal to insure porosity of the whole.

Those in the habit of using a heavier compost may consider this rather poor, but it is good enough to insure an excellent result, other points being properly attended to, and about an inch depth for small and medium sized plants is ample. The best position is one in an intermediate or Cattleya house, closely shaded from the rays of the sun, for the foliage will not stand bright sunlight. Air may be freely admitted if it can be done without lowering the temperature unduly, or causing a draught; but on cold days in spring when the young foliage is tender it is better to allow a slight rise of the temperature than to risk a cold drying draught of air.

This latter is sure to bring insects in its train, and in the culture of these sensitive plants there is so little to come and go upon that everything at all risky should be avoided. Sprinkling is helpful, if not carried to excess or practised in dull weather, but it must not be a heavy douche of water. The root should be watered in accordance with the state of growth, and, as mentioned above, nothing approaching dry rest can be allowed. A lessened supply is, of course, necessary during winter, when evaporation is less rapid and little growth is going on.

One of the best known kind is *W. discolor*, a pretty species, bearing flowers with white sepals, and petals tipped with purple. On the lip, which is purple at the base and margined with white, is a large white disc. It was found in 1848, by the collector above named, on a volcano in Costa Rica, and soon afterwards flowered in this country. *W. marginata* is supposed to have been discovered at the same time, and differs from the last principally in the colour of the lip. Another beautiful Costa Rican species is *W. Wendlandi*; it is of more recent introduction, and bears large white blossoms with a purple lip. *W. Lindeni* (fig. 10) is charming. It has a very broad flattened lip, pure white lined with purplish mauve; the sepals and petals are white.—H. R. R.

HORTICULTURAL SHOWS.

WOKING.—JULY 11TH AND 12TH.

THE fifth annual summer show of the Woking Horticultural Society was held on Tuesday and Wednesday, July 11th and 12th. Through the absence of one exhibitor, whose plants have usually occupied a considerable space in the open classes, the central stage did not present the same crowded appearance as in previous years. Although many regretted the loss of these, the exhibits staged were seen to considerably better advantage. Mr. Leabrook, gardener to R. N. Stevens, Esq., Woodham Hall, was the largest exhibitor, and in most classes maintained his reputation. His group of plants arranged for effect, however, did not come up to his previous efforts. Fuchsias also, for which he has in previous years been famous, although fairly good, were much below what he has previously

shown. For six stove or greenhouse plants, Mr. Leabrook was first with very good specimens, amongst them being a large, well-flowered variety of *Cymbidium Lowi*. Mr. Tomlin, gardener to Mrs. Goldringham, Annersly Park, Chertsey, was first for six *Caladiums*, with large, well-finished plants, Mr. Leabrook being second in this class, and again first for Ferns.

Mr. Blake (gardener to the Earl of Onslow, Clandon Park), Mr. Sadler, and Mr. Leabrook were the principal exhibitors of fruit, the whole being well-finished exhibits. Mr. Basile, gardener, The Gardens, Woburn Park, Weybridge, had matters his own way in the vegetable classes, each exhibit being of excellent quality, and well staged. For a collection of hardy flowers, and stove or greenhouse flowers, Mr. Leabrook and Mr. Tomlin were the best. The classes for Roses were well filled, the winning stands containing some excellent blooms. Mr. West, of Reigate, was especially strong. Amateur and cottager classes were well filled, and in most the competition was remarkably keen; in some instances the entries numbered fifteen and twenty. Mr. Leabrook won the cup given by J. C. Law, Esq., President of the Society, for the exhibitor gaining the highest number of points in the open classes for the third year in succession. Messrs. Geo. Jackman & Sons were awarded a silver-gilt medal for a collection of hardy flowers and Roses, while Messrs. Fletcher & Sons, Chertsey, and Messrs. Spooner & Son, Woking, received a silver medal each for similar exhibits.—VISITOR.

WOLVERHAMPTON.—JULY 12TH, 13TH, 14TH.

GLORIOUS weather ushered in the tenth anniversary of this flourishing provincial Show. It was fitting that the turn of the first decade in the Society's history should have been marked by special efforts, and by a combination of circumstances that stamped the Show as in some respects the most notable yet organised by the Committee. A meed of praise must be accorded to the Committee and Secretary for the excellent arrangement of the numerous exhibits, which rendered the task of note-taking one of comparative ease. There was a slight falling off numerically in a few of the classes, otherwise the exhibits throughout were of an excellence that has not been exceeded at any previous Show of the Society. It may be remarked at the outset that the exhibits, whether of groups of plants arranged for effect, specimen plants, Roses, herbaceous flowers, dinner-table decorations, and bouquets, all possessed such a high order of excellence, that it would almost be invidious to particularise one more than another. There was a record attendance, upwards of £1850 being taken at the gate. This is nearly £500 in excess of the previous best.

SPECIMEN PLANTS AND GROUPS.

However, beginning with the order in the schedule, we noted that, as usual, Mr. James Cypher, Cheltenham, was easily to the fore with a splendid collection of sixteen stove and greenhouse plants, Orchids excluded, remarkable for their general freshness and brilliancy of colour in the flowering section. The most notable specimens were *Phenocoma prolifera Barnesi*, *Statice profusa*, *Clerodendron Balfourianum*, *Stephanotis floribunda*, *Crotons mortefontaineensis* and *angustifolium*. The second honours were secured by Mr. W. Finch, Coventry, with also a meritorious exhibit, conspicuous in which were *Ixoras Williamsi* and *Regina*, and *Allamanda grandiflora*. The third prize was accorded to Mr. Vause, Leamington, as the only other competitor. For six plants in flower Mr. Cypher was again to the fore with fine specimens, similar to those in the first class, the second and third positions being taken by Messrs. Finch and Vause in the order named.

For a group of plants arranged for effect (first prize £20) Mr. Cypher maintained his former successes by arranging one of the best and most artistic groups yet produced by him. From the centrepiece of this *chef d'œuvre*, surmounted by an elegant *Kentia Belmoreana*, sprang four cork-bark arches, extending to the corners of the design, and terminated by a dwarf mass of flowering and foliage plants, instead of the stereotyped tall bark-constructed terminals, and which were relegated in a modified form to the sides of the design. The arches were delicately draped with a profusion of Orchids and other flowering plants and Ferns, whilst a tall and graceful *Humea elegans* was placed on the centre of each arch. In pleasing contrast to the Orchids and other flowers, richly coloured *Crotons* and other fine-foliaged plants served to complete this beautiful floral trophy. Out of the four exhibits in this class, the second prize was worthily accorded to Mr. J. E. Knight, Tettenhall Nursery, Wolverhampton, for a rich and excellent arrangement, similar to the former exhibitors. Orchids, *Lilium Harrisii*, and other flowering plants, with *Crotons*, *Dracenas*, and Palms, were the chief items in the design. It is further noteworthy that Mr. Knight has the honour, by this exhibit, of being the recipient of the highest prize in any class yet taken by a local exhibitor since the inception of the Society. The third prize was secured by Mr. Vause; and the fourth by Mr. J. Macdonald, gardener to G. H. Kenrick, Esq., Edgbaston, Birmingham.

The class for eight Orchids was represented by Mr. Cypher with a choice assortment, and to which the first prize was given. Six Palms were unusually well shown by Messrs. Cypher, Macdonald, and Vause; as were six fine-foliage plants by Messrs. Cypher, Vause, and Finch; and six exotic Ferns by Messrs. M. Campbell, Blantyre, and J. Macdonald.

ROSES.

The magnificent display of Roses was a leading feature in the Show, and was considered to be one of the best yet held by the Society. The array along one side of a large tent produced an imposing effect, and despite the unfavourable state of the past season, both excellent quality and size of blooms characterised the exhibit. In the class for seventy-two distinct varieties (first prize £12 12s.) Mr. B. R. Cant, Colchester, secured the coveted honour with an excellent assortment of the leading

varieties extant, followed closely by Messrs. Harkness & Sons, Bedale, whilst Messrs. F. Cant & Co., Colechester, gained the third, and Messrs. A. Dickson & Sons, Newtownwards, the fourth prize, with little inferior exhibits. For forty-eight distinct varieties the premier prize was awarded to Messrs. Harkness & Sons, the second to Messrs. F. Cant & Co., and the third prize to Messrs. A. Dickson & Son with highly meritorious contributions. For eight varieties, three blooms of each, Messrs. B. R. Cant, Harkness & Sons, F. Cant & Co., and A. Dickson & Son were awarded the prizes as in order named, all with fine stands.

For twenty-four distinct varieties (for those not showing in the class for seventy-two blooms) Messrs. J. Townsend & Son, Worcester, J. Mattock, Oxford, and H. Merryweather, Southwell, Notts, were the successful exhibitors in the order named. An interesting class was that of twelve blooms of varieties of 1895, 1896, and 1897. The first prize (£2 and a gold medal) was awarded to Messrs. F. Cant & Co., the second prize to Messrs. A. Dickson & Son, and the third prize to Mr. B. R. Cant.

Another interesting and attractive class was that comprising the exhibits of twelve blooms each of dark and light Roses. For twelve dark blooms Messrs. Townsend & Son were first with Gustave Piganeau, closely followed by Messrs. F. Cant & Co. with Victor Hugo, and Mr. B. R. Cant with Ulrich Brunner. For twelve light blooms Mr. B. R. Cant secured the first prize with Mrs. John Laing, the second prize going to Messrs. A. Dickson & Son with Bessie Brown, and the third to Messrs. Townsend & Son with Marchioness of Londonderry. Tea Roses were also well represented, and in the class for twelve blooms, distinct varieties, the first prize was awarded to Mr. John Mattock, the second to Messrs. F. Cant & Co., and equal third to Mr. B. R. Cant and Messrs. A. Dickson and Son.

In the class for the most decorative arrangement of Roses Messrs. Perkins & Sons, Coventry, were an easy first for a most attractive display. The second prize was awarded to Mr. J. Mattock, and the third to Mr. W. F. Gunn, Olton, Birmingham.

In the class open to gentlemen's gardeners and amateurs only the Rev. J. H. Pemberton, Havering, was placed first for a very good collection of thirty-six varieties. Mr. W. Boyes, Derby, secured the second prize with a creditable stand. For six distinct varieties, three trusses of each, the same order was maintained.

FLORAL DESIGNS.

Bouquets, though not numerous represented, were of high merit, and for a hand bouquet Messrs. Perkins & Son had to submit to Messrs. Jenkinson & Son, Newcastle, Staffs, in contention for first honours, though it must have been a most difficult task to adjudicate thereon as to which was the superior exhibit. The third prize was awarded to Mr. W. Vause. For a bridesmaid's bouquet the foregoing competitors occupied the same positions; but for a bridal bouquet the positions of the first two exhibitors were reversed, and they were the only exhibitors.

Another imposing feature was the splendid array of herbaceous cut flowers, both in the competitive and the non-competitive classes. In the former Messrs. Gunn & Co. distinguished themselves by gaining the first prize for a meritorious assortment well set up; the second prize went to Mr. J. Salmon, and the third to Mr. T. Naden.

A tent was set apart for dinner-table decoration, the competition being very good and interesting; there were eleven exhibits. The first prize was secured by Messrs. Jenkinson & Son, the second by Messrs. T. B. Dobbs, Wolverhampton, the third by Mr. F. Prior, Wolverhampton. Pansies and Violas formed a pleasing feature, and the productions of several exhibitors, including Messrs. Campbell, W. Sydenham, Barr and Sons, Pemberton & Son, and G. Fry, Derby, were beautiful. Carnations and Pinks were nicely shown by such experts as Messrs. B. R. Cant, Thomson & Co., Birmingham, M. Campbell, and W. Pemberton & Son. Sweet Peas were exceedingly well shown by Messrs. Gunn & Co., J. H. Goodacre, Elvaston Castle, and Messrs. Jones & Son, Shrewsbury.

Messrs. Webb & Sons, Stourbridge, were awarded a certificate of merit for a seedling Gloxinia named Stanley, of a deep rich crimson colour and erect habit; the foliage was slightly veined with white. The noted Hawley silver challenge cup, value £20, was won for the third time by Messrs. Dickson, Ltd., Chester, who now take it as their own property. A beautiful collection of Marliac's Water Lilies exhibited in a shallow zinc tank attracted much attention in this stand. Another attractive feature was the magnificent group of Malmaison Carnations in pots, "not for competition," exhibited by the head gardener to the Earl of Dartmouth, Patshull Hall, Staffs, and to whom a gold medal was awarded. Messrs. Peed & Son, London, were awarded a gold medal for a splendid group of Caladiums; and Messrs. J. Laing and Sons, London, a gold medal for a collection of Begonias and other decorative plants. Messrs. F. Sander & Co. were awarded a gold medal for a collection of new and rare plants, amongst which the *Acalypha Sanderi* was conspicuous.

FRUIT.

Fruit, though not remarkable for abundance, was, on the whole, of good quality—excepting that the Muscat of Alexandria Grapes lacked the high finish so requisite in perfect examples. In the collection of nine dishes, Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, secured first honours with a Queen Pine Apple, two bunches of Black Hamburg and two of Muscat of Alexandria Grapes, one dish each of fine Bellegarde and Noblesse Peaches, a dish of good Lord Napier Nectarines, Countess Melon, Lady Sudeley Apples, and Royal Sovereign Strawberries, very fine. The second prize was awarded to Mr. Thos. Bannerman, gardener to Lord Bagot, Blithfield, for also a good collection. The third prize was awarded to Mr. F. Jordan, gardener to J. Corbett, Esq., Impney Hall.

For four bunches of Grapes, distinct varieties, Mr. Goodacre secured the first prize with good examples of Gros Maroc, Black Hamburg, Muscat Hamburg, and Madresfield Court. Mr. J. Read, gardener to the Earl of Carnarvon, took the second prize, and Mr. F. Jordan the third. For two bunches white Grapes, the first prize was awarded to Mr. F. Jordan for good examples of Muscat of Alexandria, the second prize being awarded to Mr. S. Bremmell, gardener to H. H. Francis Hayhurst, Esq., for the same variety, and the third to Mr. Thos. Bannerman for Foster's Seedling. For two bunches black Grapes, Mr. Goodacre was to the fore with fine Muscat Hamburg, and Mr. N. F. Barnes, Eaton Hall, was second with Black Hamburg. Mr. J. F. Simpson, gardener to C. T. Mander, Esq., Tettenhall Wood, Wolverhampton, with Black Hamburg, was third.

In the class for Melons Mr. Goodacre was credited with the first prize for a good example of Countess. The second prize went to Mr. A. Ruddock, gardener to E. H. Young, Esq., Bangor; and the third to Mr. T. Bannerman. Peaches were very fairly shown, and Mr. T. Bannerman won the first prize with a beautiful dish of Royal George; the second prize being accorded to Mr. John Wilks, gardener to Mrs. Meakin, for a good dish of Dymond; and the third prize to Mr. Goodacre. Nectarines were excellently shown, and Mr. N. F. Barnes, Eaton Hall, Chester,



FIG. 10.—WARSCEWICZELLA LINDEI.

secured the first prize with a splendid dish of Elruge, large and richly coloured; the second and third positions being taken by Messrs. F. Jordan and J. H. Goodacre in the order named. For a single dish of Strawberries Mr. N. F. Barnes won the first prize with Gunton Park. The second went to Mr. J. F. Simpson, Tettenhall Wood, with Royal Sovereign; and the third to Mr. Goodacre with the same variety. For three dishes Mr. N. F. Barnes was accorded the first prize; Mr. J. F. Simpson the second; and Mr. G. Ambrose, gardener to Colonel R. S. Cotton, the third prize. For three dishes of Tomatoes Mr. J. Read, gardener to the Earl of Carnarvon, was placed first; and Mr. G. A. Young second.

Vegetables were not numerous shown in the leading classes, but were of excellent quality.

MEDALS AND CERTIFICATES.—The Judges awarded the following medals and certificates:—Mr. H. Deverill gold medal, for herbaceous cut flowers; Messrs. T. B. Dobbs & Co., gold medal, for exhibit of plants and birds; Messrs. F. Sander & Co., gold medal, for group of new and rare plants; Messrs. J. Laing & Sons, gold medal, for Begonias and decorative plants; Right Hon. Earl of Dartmouth, gold medal, for group of Carnations; Messrs. W. Edwards & Son, silver medal, for Ferns in pots; Mr. H. Pattison, gold medal, for Violas; Messrs. Webb & Sons, Stourbridge, gold medal, for vegetables and cut flowers; Messrs. Thomson and Co., Birmingham, silver medal, for blooms; Mr. W. Sydenham, Tamworth, silver medal, for Violas; Messrs. Barr & Sons, Covent Garden, silver medal, cut herbaceous flowers; Messrs. Hewitt & Co., Solihull, silver medal, for floral designs; Messrs. Birkenhead, Sale, gold medal, for Ferns; Messrs. Eckford, Wem, gold medal, for Sweet Peas; Mr.

Robert Sydenham, silver medal, for table decorations; Mr. J. E. Knight, for Sweet Peas; Messrs. Webb & Sons, for Gloxinias; Mr. Richard Lowe, silver medal, for group of plants; and Mr. C. Barratt, Tettenhall, for Palms and Ferns.

NEWCASTLE.—JULY 13TH, 14TH, AND 15TH.

NEWCASTLE-ON-TYNE has long been famed for its annual summer shows provided by competent and energetic committees and courteous and zealous officials. The gentlemen who were responsible for the exhibition of the present year are to be congratulated on the success of their efforts, for not only was a great and varied display arranged, but all was in readiness for the Judges in admirable time. The event of last week was of more than ordinary interest, inasmuch as the Royal Horticultural Society had accepted an invitation to attend in the form of a representative deputation. This visit, in recognition of provincial horticulture, was evidently appreciated, and the courtesy and hospitality extended to the several members left nothing to be desired.

The Show was held, as usual, in the extensive Recreation Ground, North Road, and the arrangements were excellent. The whole of the exhibits were displayed in a wide and lofty marquee some 400 feet in length, broadening in the centre, ample space being provided for visitors, who could pass down the floral avenues and admire the diversified attractions with comfort. Though specimen plants and groups did not equal those at Wolverhampton on the previous day, there was plenty of compensation in the various collections, which merited the honours awarded by the Judges and the Royal Horticultural Society, and it may safely be said that a grander display of border flowers was never seen at any show.

GROUPS AND PLANTS.

The groups were not up to the usual standard, the space being too crowded to allow of an effective arrangement being carried out. The first prize went to Mr. McIntyre, gardener to Mrs. Gurney Pease, Darlington, who showed a charming arrangement; Mr. Farquharson, gardener to R. O. Lamb, Esq., was second; and Mrs. Jennings, Haymarket, Newcastle, third. The Committee would no doubt find it advantageous to arrange for the groups to be shown in a separate tent, or where more space could be afforded. A pleasing class is the one for the arrangement of fireplace, and it brought four competitors, the first being won by T. Battensby, Esq., Blaydon-on-Tyne, with a pretty arrangement; Mr. B. Jennings was second, and Mr. J. McIntyre third. All were charmingly arranged, but some lacked brightness and quality.

Specimen plants were not largely shown, and the quality of the exhibits was not of the first order, with few exceptions, although the prizes offered should have brought good competition. In the class for six plants in bloom, the first prize was won by Mr. Nicholas, gardener to the Marquis of Zetland, Upleatham, Redcar, who showed *Erica ventricosa* Bothwelli, *Stephanotis floribunda*, *Erica Cavendishi*, and *Aphelaxis roseus*; Mr. John Morris was second. For six foliage plants, Mr. McIntyre was first, Mr. Nicholas second, and Mr. Jennings third. For three Crotons, the first prize was taken by Mr. McIntyre, Darlington; and the second by Mr. John Morris. In the class for four plants in bloom (nurserymen excluded), the first prize was awarded to Mr. Nicholas.

CUT FLOWERS.

The Roses were very fine indeed, owing, no doubt, to the lateness of the season; the competition in all classes was excellent, the premier honours going almost in every class to Messrs. Harkness & Sons, Bedale, which firm showed blooms of grand substance and colour. In the class for seventy-two Roses, twenty-four dissimilar, to be shown in triplets, Messrs. Harkness & Sons were first, and their stand included good specimens of *La France*, *Alf. Colomb*, *Jeanie Dickson*, *Général Jacqueminot*, *Souvenir de S. A. Prince*, *Ulrich Brunner*, *White Lady*, and *Lady Mary Fitzwilliam*. Messrs. D. & W. Croll, Dundee, were second with a good stand comprising *Madame Cusin*, *Innocente*, *Pirola*, and *Jeanie Dickson* in particularly good form. Messrs. G. & W. Burch, Peterborough, were third.

In class for forty-eight Roses, dissimilar, first, Messrs. Harkness and Sons, whose best blooms were *Captain Hayward*, *Prince Arthur*, *Fisher Holmes*, *Marie Verdier*, and *Star of Waltham*. Second, Messrs. R. Mack and Son, who staged *Captain Hayward*, *Louis Van Houtte*, *Duke of Edinburgh*, *Ulrich Brunner*, and *Charles Darwin* in fine condition; and third, Messrs. D. & W. Croll. For thirty-six Roses Messrs. Harkness and Sons were again first with excellent blooms; Messrs. D. & W. Croll second, and Messrs. G. & W. Burch third. For twelve Roses, dissimilar, Messrs. Harkness & Sons secured the chief prize, and were followed by Messrs. R. Mack & Son, and G. & W. Burch, in the order named. For twelve Roses, one variety, Messrs. Harkness & Sons were first with *Mrs. John Laing*.

Another class which attracted great attention and admiration was that for a decorative table of Roses arranged for effect. In this class some excellent taste was exhibited, the premier award going to Messrs. Perkins and Sons of Coventry, who, with their usual skill, showed that Roses can be, when artistically treated, used for decorative purposes without other flowers. The second prize was won by Messrs. D. & W. Croll, whose table was very tastefully arranged; and the third to Messrs. Harkness and Sons, whose exhibit, while including some grand blooms, lacked the finish and light arrangement of the two former exhibits. In the classes for amateur growers of Roses the chief prizes went to Mr. W. Hutchinson, Kirby Moorside, and Mr. R. Park of Bedale, both of whom exhibited good blooms.

The cut herbaceous flowers were a very great feature of the show, and

called forth general admiration, both the quantity and quality being of great merit. In the class for twenty-four bunches the first prize was awarded to Messrs. Cocker & Son, Aberdeen, who included in their collection some grand bunches of *Heuchera sanguinea grandiflora*, *Helonium Bolanderi*, *Pæony Festiva*, *Gladiolus delicatissima*, *Iris Leander*, *I. Blue Emperor*, *I. Snowball*, *Lilium Harrisii*, *L. Martagon album*, *Centranthus rubra* (very fine indeed), *Eryngium alpinum*, *Gaillardia Penelope*, *Delphinium Argus*, *Aquilegia cœrulea*, *Geum coccineum plenum*, and others. The second prize was won by Messrs. Harkness & Sons, who showed *Gaillardia grandiflora maxima*, *Chrysanthemum maximum*, *Papaver nudicaule lutea*, *Inula glandulosa*, *Centaurea macrophylla*, *Iris ochroleuca*, *Pæony triumphans Cavendishi*, *Coreopsis grandiflora*, and *Gladiolus Bride*. The third position was taken by Mr. F. Edmondson, Green Market, Newcastle. This exhibit was interesting in that the flowers were grown within a short distance of the place of exhibition. In the class for eighteen bunches the same order was preserved by the prizewinners.

In the class for twelve bunches of hardy perennials, nurserymen excluded, first prize Mr. W. Hutchinson, Kirby Moorside, his collection including a lovely bunch of *Campanula persicifolia alba grandiflora*. Second, Mr. McIndoe, Hutton Hall Gardens; and third, T. Battensby, Esq., Blaydon. All these were very charming.

The display of bouquets, baskets, and other devices was exceedingly large and very choice. In all classes competition was keen. Messrs. Perkins & Sons, as usual, figured prominently, but in some cases the local exhibitors got the lead, and great credit is due to them. For a bridal bouquet Messrs. Perkins & Sons were first, Mrs. B. Jennings, Newcastle, second, and T. Battensby, Esq., Blaydon, third. For a bridal bouquet, Orchids excluded, the first and second prizes were as in the preceding class, the third going to Mr. F. Edmondson. For a hand bouquet, first Messrs. Perkins & Sons, second Mrs. B. Jennings, and third, T. Battensby, Esq. For a hand bouquet, Orchids excluded, Messrs. Perkins & Sons were a splendid first, T. Battensby, Esq., second, and Mr. F. Edmondson third. For three sprays for ladies T. Battensby, Esq., went to the front, and was followed by Messrs. Perkins & Sons and Mr. F. Edmondson in the order named, the same position being maintained for six buttonholes. For a basket of Roses, Mr. W. V. Longfield, with a very tastefully arranged basket was first, and Messrs. Perkins & Sons second. For a vase or epergne, Orchids excluded, Mr. W. V. Longfield, with a charming arrangement, was first, and Mr. G. Webster, Sunderland, second; while for a vase or epergne Mr. F. Edmondson was first, and Mr. G. Webster second. For a basket of cut flowers the prizes went to Messrs. Perkins and Sons and Mr. F. Edmondson as named.

FRUIT.

The fruit, though not in very large quantities, was of excellent quality, and in most of the classes there was good competition. Worthy of especial note were the fine exhibits of Mr. J. H. Goodacre, who showed admirably. In the class for eight dishes of fruit, distinct, the first prize was won by Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, with grandly coloured *Black Hamburg* and *Cannon Hall Muscat Grapes*, *Queen Pine*, *Countess Melon*, fine *Lord Napier Nectarines*, *Barrington Peaches*, *Brown Turkey Figs*, and *Astrachan Apples*. This prize also carried with it a silver Banksian medal. The second prize was taken by Mr. McIndoe, Hutton Hall, who staged good quality, but his *Madresfield Court Grapes* lacked finish; and the third by Mr. Tullett, gardener to Lord Barnard, Raby Castle, with an even exhibit, but the *Grapes* were not quite up to the mark, apparently having suffered in transit. For four dishes of fruit, *Pines* excluded, Mr. J. H. Goodacre was again at the front with good *Hamburg Grapes*, *Peaches* and *Nectarines*, and a fine *Hero of Lockinge Melon*. Mr. McIndoe was second; and Mr. Lonsdale, gardener to R. H. Appleton, Esq., third.

For four bunches of *Grapes* Mr. J. H. Goodacre held his own with splendidly finished examples of *Madresfield Court* and *Muscat Hamburg*, and was followed by Mr. McIndoe and Mr. Tullett. For two bunches of *White Muscat Grapes* Mr. R. Strickland, gardener to T. W. Backhouse, Esq., was first with *White Frontignan*, Mr. McIndoe second, and Mr. Geo. Lonsdale third. In the above class the prize was awarded in error to *White Frontignan*, the schedule stating that it should be *White Muscat*. Two bunches of *white Grapes*, any variety, first, Mr. McIndoe, who showed good *Duke of Buccleuch*; second, Mr. Goodacre, with *Foster's Seedling*; and third, H. Cooke, Esq. For two *Black Hamburg Grapes* Mr. Goodacre was first, Mr. Geo. Lonsdale second, and Mr. T. Clarke, Cramlington, third. For two bunches *black Grapes*, any other variety, Mr. McIndoe was first with *Madresfield Court*, and Mr. Goodacre second. For one *Melon* the prizetakers were Messrs. Tullett, Goodacre, and McIndoe, in the order given. The class for a dish of *Peaches* brought good competition, the first prize going to Mr. J. H. Goodacre, who showed some grand fruits of *Royal George*; the second to Mr. F. Nicholas, with *Dymond*; and the third to A. Guthrie, Esq., with *Royal George*. For a dish of *Nectarines* Mr. Goodacre was first with finely coloured *Lord Napier*, Mr. Tullett second, and Mr. McIndoe third. For a dish of *Cherries* Mr. McIndoe was first with *Elton*, Mr. Goodacre second, and R. H. Appleton, Esq., third. The class for a collection of six varieties of *Strawberries* only brought one entry, that of Mr. W. S. MacFarlane, who showed some grand fruit of *Sir Joseph Paxton*, *John Ruskin*, *Noble*, *Scarlet Queen*, and *Royal Sovereign*. For twelve *Tomatoes* R. H. Appleton, Esq., who showed grand *Sutton's Perfection*, was first; and Mr. Blackwood, gardener to Lord Decies, second.

EXHIBITS NOT FOR COMPETITION.

The trade as usual made a very fine display in the non-competitive classes, and the exceedingly choice group sent by Messrs. Jas. Veitch and

Son, Ltd., Chelsea, was unanimously awarded what it undoubtedly merited, a gold medal, by the Royal Horticultural Society. The group, which was arranged on the grass, contained grand Caladiums, Crotons, and Orchids in flower, including *Mormodes pardinum*, *Epiphronitis Veitchii*, *Lælio-Cattleya Canhamiana*, *Phaius bicolor purpurascens*, and others, the whole forming what we think to have been one of the richest groups in the Show. Messrs. Cannell & Sons, Swanley, exhibited a most effective group of their excellent Cannas in full bloom. These had travelled safely, and were in good condition; notable among others were Admiral Avelon, Burbank, and Flamingo. Messrs. Laing & Mather of Kelso had a small exhibit of well-grown Malmaisons and Tree Carnations, for which the firm is noted.

A beautiful group of Malmaison Carnations was contributed by Mr. Goodacre, Elvaston Castle. All the plants were well grown, and carrying good blooms. Messrs. W. Paul & Son, Waltham Cross, made a grand display of cut Roses, the blooms being effectively arranged in round hampers. The space occupied was 250 feet, and among other popular varieties the following were noted:—Mrs. John Laing, Merveille de Lyon, Ethel Brownlow, W. A. Richardson, Gloire Lyonnaise, Spenser, Marie Van Houtte, and Mrs. W. J. Grant. This firm also showed, among new varieties, Milton, Tennyson (a rich flesh coloured variety of good form), Exquisite, Aurora, and Waltham Standard. Quite distinct from any other exhibit was the miniature rockery sent by Messrs. Jas. Backhouse & Son, Ltd., York. The arrangement of this exhibit was original, and the many little alpine plants were each shown as if just transformed from their native habitat. The back of the rockery was furnished with Hardy Bamboos, and coming gracefully from among these was a lovely spike of *Romneya Coulteri*, very distinct, and reminding one of a large single white Pæony in the bloom, although not possessing such substance. Among choice alpine plants in flower were *Ramondia pyrenaica*, *Dianthus neglectus*, *Campanula G. F. Wilson*, *C. pumila alba*, *C. persicifolia alba grandiflora*, and *Darlingtonia californica*. Adjoining this was a collection of greenhouse plants, Crotons, and Orchids in flower from Messrs. Backhouse, and varieties of *Nymphaea marliacea*. Messrs. Little & Ballantyne, Carlisle, had a selection of clean, well-grown stove and greenhouse plants, and they included in their group specimens of the purple-leaved Vine, and also their new Holly Golden King, for which the R.H.S. awarded a first-class certificate. Messrs. Wallace & Co. of Colchester sent choice *Liliums* and *Calochorti*, and the result was a charming collection, containing excellent specimens of *Liliums Browni*, *Hansonii*, *Parryi*, and varieties of *Thunbergii*. *Hemerocallis aurantiaca major* was also noted. The varieties of *Calochorti* were very numerous and interesting.

From Mr. John Forbes of Hawick came spikes of Pentstemons, Phloxes, and Delphiniums, and everyone agreed that on no occasion had they seen finer exhibited. A great centre of attraction was the collection of cut blooms of *Nymphaea marliacea* varieties, exhibited by Mr. Hudson, gardener to L. de Rothschild, Esq., Gunnersbury House. With one exception they were all cut from the open air, and were excellent, and should certainly give encouragement to others to take up the cultivation of these easily grown plants. Among others we noted *rubra*, *chromatella*, *rosea*, *albida*, *punctata*, *Andreana*, *odorata rosea*, and a lovely blue variety. Mr. Jas. Douglas, Edenside, Great Bookham, showed choice Carnations, including Churchwarden, Nell Gwynne, Prime Minister, Lady Grimston, and Mrs. J. Douglas. Messrs. Robson & Son, Hexham, staged a group of *Coniferae*, effectively arranged and relieved by the use of variegated *Cornus*. Messrs. W. Fell & Co., Hexham, also contributed *Coniferae*, with herbaceous flowers dotted among them. In addition the firm sent stove and greenhouse plants and cut Roses. Particularly noteworthy were the varieties of Spanish and English Iris sent by Messrs. Cocker & Son, Aberdeen; the varieties were excellent, and gave great satisfaction.

THE LUNCHEON.

At noon the members of the R.H.S. deputation were entertained to lunch at the Grand Hotel, when about fifty gentlemen sat down. The President of the local Society, Riley Lord, Esq., presided, and was supported by Sir Trevor Lawrence Bart., Alderman Ellis, J.P., and others. The Chairman, in proposing the toast of success to the R.H.S., said how much they appreciated the visit of the parent Society, and the fact of their visit would no doubt account for the improved Show. Undoubtedly the parent Society was doing excellent work in London in stimulating the love for flowers, and he thought that evidence was forthcoming when one looked back and remembered what a great change had been effected in the open spaces and parks of London. He assured the parent Society that their visit was appreciated, and hoped they would give them hints as to improvements. The President mentioned that the Society was founded in 1824, and had held a show every year since. Sir Trevor Lawrence, President of the R.H.S., in responding, thanked the Newcastle people for the very flattering reception given to the R.H.S. They were all, he said, delighted with what they had seen, and the handsome way they had been entertained. The R.H.S. had for the last four years sent out one deputation a year to the provinces, and he hoped that good work had been done both for the visitors and the visited societies. They were very decided in their praise of the show, and he thought that the herbaceous flowers were certainly shown finer than they had seen the year before. The Roses also were deserving of great credit, and also especially noticeable were the charming Pentstemons and Phloxes from Mr. John Forbes of Hawick. Mr. Shea proposed the health of the Newcastle Flower Show Committee, and Alderman Ellis, J.P., in responding, said how very greatly they valued the kind words spoken by the President of the R.H.S. and Mr. Shea. He had an excellent Committee and was well supported by the townsmen, and he trusted that when next

the R.H.S. honour them the Show would have improved, and have done good work.

At the close of the luncheon the members of the deputation were conducted round the City by the Committee, and thus closed what must have been to all a most enjoyable visit.

The Show during the first day was largely patronised, what we think is an excellent system in regard to charge for entrance being here in force. The charge for admission up to two o'clock is 2s. 6d. (professional gardeners 1s.); after that it is 1s. to the general public, and therefore people crowd in then, knowing that everything can be seen fresh, and an excellent shillingsworth obtained. We trust the show proved what it deserved to be—a financial success.

R.H.S. AWARDS.

The following is a complete list of awards made by the deputation of the Royal Horticultural Society:—Gold medal to Messrs. J. Veitch and Sons, Ltd., for a group of plants. Silver-gilt Flora medals to Messrs. W. Paul & Son for Roses, and to Messrs. Backhouse & Son, Ltd., for Alpine plants and others. Silver-gilt Banksian medal to Messrs. Wallace & Co. for Lilies and *Calochorti*. Silver Flora medals to Messrs. Cocker & Sons for herbaceous flowers, Messrs. Cocker & Sons for English and Spanish Iris, to Messrs. Cannell & Sons for Cannas, and to Messrs. Perkins & Sons for Roses arranged for effect. Silver Banksian medals to Mr. Alex. Lister for Violas, to Mr. J. Hudson for Water Lilies, to Messrs. Harkness and Sons for box of Roses Mrs. John Laing, to Mr. J. McIndoe for eight dishes of fruit, to Mr. J. H. Goodacre for eight dishes of fruit, to Mr. J. McIntyre for a group of plants, and to Mr. S. Pye for Violas. A bronze Flora medal to Messrs. Harkness & Sons for cut herbaceous flowers, and a first-class certificate to Messrs. Little & Ballantyne for Holly Golden King.

READING.—JULY 14TH.

USUALLY the summer meeting of this Society has been held in the month of August, and has produced some of the best exhibitions in the South of England. This year a change in the date was deemed advisable, mainly with a view to increasing the interest taken in the exhibition of Roses. In this section alone the change was noticeable, for a really fine display was got together. Vegetables, as was to be expected owing to the season, were not nearly as fine as in former years. It must not, however, be supposed that the display in this department was a poor one, far from it; a really grand collection was got together, as might be expected when the names of Messrs. Lye, Waite, Pope, and Wilkins are quoted as having been present. The exhibits were arranged in three large marquees in the Forbury Gardens.

The greatest interest, perhaps, was centred in the groups of miscellaneous plants arranged for effect, of which there were two classes set apart. Messrs. Sutton & Sons offered a challenge cup, value £25, open to gardeners only, as first prize for the best group to occupy a space 18 feet by 10 feet. In addition to the cup £5 was offered in money, with substantial cash prizes for second and third prizewinners. For this coveted trophy three competed. Mr. W. Peel, gardener to Miss Todd, Sidford Lodge, Shirley, Southampton, easily secured the premier position with a commendable arrangement. Mr. Woolford, gardener to A. Palmer, Esq., East Thorpe, Reading, was a creditable second, and Mr. Bassil, gardener to D. H. Evans, Esq., Pangbourne, third. The Society also offered a challenge cup, value £21, for a similar group open to all England. Mr. Woolford appropriated the coveted award with a particularly bright arrangement. Two others competed, but no prizes were awarded. Still another group class was provided, this for 10 feet by 8 feet. Mr. Chamberlain, gardener to F. M. Lonergan, Esq., was adjudged the premier place for a bright, somewhat heavy arrangement.

Specimen plants were freely contributed. Mr. Peel won for eight, half in flower, with creditable examples. Mr. Peel also secured the premier place for specimen plants in flower, staging *Ixora Williamsii* in capital condition. Mr. Woolford followed with *Clerodendron Balfourianum*. Ferns were of high order. Mr. Woolford won for four with handsome examples of *Davallia Mooreana*, *D. fijiensis elegans*, and *Microlepia hirta cristata*. Mr. Leith, gardener to A. B. Welch Thornton, Esq., Beaurepaire Park, second. The latter was successful with four specimens, flower and foliage, and also for four foliage plants. Orchids were not numerous, but interesting, Mr. Woolford winning for three with healthy specimens of *Epidendrum vitellinum majus*, *Cattleya Gaskelliana*, and *Cycnoches chlorochilon*. Fuchsias were a distinct feature. Mr. Bright, Whiteknights, was ahead of all others with specimens fully 9 feet high, elegantly trained, and grandly flowered. The varieties were Mrs. Rundle, Western Beauty, Star of Wilts, Wiltshire Giant, elegans, and Grand Duchess. Mr. Hinton, gardener to Major Batterscombe, Bath Road, Reading, was second.

Cut flowers were numerous and good, Roses especially being freely contributed. For thirty-six, distinct, single trusses, Mr. C. Turner, Slough, was placed equal first with Mr. J. Mattock, Oxford, both staging blooms remarkable for quality and freshness. In the former stand were grand examples of Marie Baumann and Duchesse de Morny, and in the latter Mdle. Marie Rady, Auguste Rigotard, Marchioness of Downshire, and The Bride. Mr. Alfred Walters, Bath, was third. For eighteen Tea or Noisette varieties Mr. Mattock was the premier prizetaker with even, fresh blooms. In the one variety class for twelve blooms Messrs. C. Turner and Mattock were placed in the order noted, both staging superb blooms of Mrs. J. Laing. The best twelve Tea or Noisette varieties came from Mr. Mease, gardener to A. Tate, Esq., Leatherhead. Chief amongst them were Madame de Watteville, Maman Cochet, Madame Cusin, and Miss E. Brownlow. In the amateur class for twenty-four varieties, single trusses, Mr. Humphrey, gardener to P. Burnand, Esq.,

Reigate, won first honours with neat examples of leading varieties. Mr. Mease was second. Hardy flowers made a bold display. For twelve bunches, distinct, Mr. Turton, Maiden Erlegh, Reading, won rather easily with a thoroughly representative collection. Mr. A. Walters second; Mr. Osman, gardener to J. L. Baker, Esq., Ottershaw Park, third.

Fruit was not numerous, but good in quality. For a collection of six distinct dishes, Mr. McHattie, gardener to the Duke of Wellington, Strathfieldsaye, was an easy first with medium-sized, high quality bunches of Black Hamburgh Grapes, Smooth Cayenne Pine, Frogmore Seedling Melon, Violette Hâtive Peaches, and Lord Napier Nectarine. Mr. Turton was second; Sir J. Paxton Strawberries here were finely shown. Black Hamburgh Grapes were well represented in the class for three bunches. Eight competed. Mr. Osman won easily with grand examples. Mr. Woolford was second with smaller bunches, and Mr. Wilson, gardener to Mrs. Garland, Lower Redlands, third. Madresfield Court was the variety staged in the class for three bunches any other black Grape. Mr. Tidy, gardener to W. K. D'Arcy, Esq., Stanmore Hall, won first place; Mr. Galt, gardener to C. E. Keyser, Esq., Aldermaston Court, second with larger, but not so perfect examples. For three bunches white Grapes Mr. Galt staged exceedingly fine examples of Duke of Buccleuch. Mr. Pope, gardener to the Earl of Carnarvon, Highclere Castle, depended on Muscat of Alexandria for second prize, while Mr. Tidy had Foster's Seedling for the third. Mr. McHattie had the best Peaches and Nectarines in the classes for one dish of each. Mr. Mortimer, Farnham, secured the leading award for both green and scarlet-flesh Melons, Royal Jubilee and Scarlet Gem being the varieties staged.

Vegetables were numerous and good. Messrs. Sutton & Sons offered seven prizes ranging from £10 to £1 for a collection of twelve varieties in nine distinct kinds. Seven competed, making a grand display. Mr. Lye, gardener to Mrs. Kingsmill, Sydmonton Court, Newbury, was ahead of his opponents with a collection that did not contain a single weak dish. Very fine were Sutton's Supreme Potato, Early Giant Pea, Perfection Tomato, Sulham Pink and Solid White Celeries, Autumn Mammoth Cauliflowers, Ailsa Craig Onions, Peerless Cucumbers, Globe Beet, Snowball Turnip, Champion Scarlet Horn Carrot, and Ne Plus Ultra Runner Beans. Mr. Waite, gardener to Hon. P. Talbot, Glenhurst, Esher, was second; Mr. Pope third; Mr. Bastin, gardener to A. Henderson, Esq., M.P., Buscot Park, fourth; and Mr. T. Wilkins, gardener to Lady Theodore Guest, Inwood House, Henstridge, fifth. Messrs. Webb & Sons also offered valuable prizes for six distinct kinds. Mr. Best, gardener to F. D. Leyland, Esq., The Vine, Winchester, secured the leading award with handsome examples of Peerless Cauliflower, Stourbridge Glory Potato, and Sensation Tomato. Mr. Booker, gardener to W. B. Monk, Esq., Coley Park, was second.

Mr. F. G. Foster, Brockhampton Nurseries, Havant, staged sixty distinct varieties of Sweet Peas in huge bunches, which were much admired. Messrs. Webb & Sons also showed a small collection of this charming flower. Mr. Will Taylor, Hampton Nurseries, Middlesex, had an interesting exhibit of Roses. Mr. W. L. Walker, the hard-working Secretary, is to be complimented on such a fine Show as that here noted.

CANTERBURY.—JULY 14TH.

ALL credit is due to the members of the Canterbury Gardeners' Society and others who rendered assistance at the Hospital and Charity Fête, held on the above date in the grounds of Ersham House, kindly lent by Mrs. Sargent. The horticultural show was the main attraction, but the numerous amusements were highly enjoyed by the large concourse of people who crowded into the grounds. The Canterbury Hospital and Charity Fête is a worthy Institution, and another instance of the part played by horticulture in assisting the needy. We trust the financial results were of a satisfactory nature. Speaking horticulturally, we congratulate the Society on the variety and excellence of the show, together with the method by which the arrangements were carried out.

Mr. George Mount won in the class for forty-eight Roses in distinct varieties with a fine stand, containing amongst others fine flowers of Thomas Mills, Her Majesty, Horace Vernet, Mrs. John Laing, Viscountess Folkestone, Clio, Earl Dufferin, Duke of Edinburgh, La France, Thomas Mills, Merveille de Lyon, and Captain Hayward. Mr. W. R. Pierce was placed second, but the flowers lacked the quality which characterised the premier exhibit. Mr. G. Mount also had the best twenty-four blooms, showing splendid examples of Her Majesty, Général Jacqueminot, Captain Hayward, A. K. Williams, Madame Gabriel Luizet, Mrs. J. Laing, Madame Hoste, Ulrich Brunner, S. M. Rodocanachi, Clio, Mrs. Sharman Crawford, and others. Mr. R. E. West, Reigate, took the second honours with good blooms, and the third prize went to Mr. W. R. Pierce. The first prize for the best dozen triplets also went to Mr. G. Mount, the best flowers being Ulrich Brunner, Her Majesty, Captain Hayward, and Mrs. J. Laing. Mr. W. R. Pierce was second. Mr. G. Mount showed twelve beautiful Tea Roses, which gained first prize; Mr. W. R. Pierce following with the second award.

In the gardeners' class for twelve Roses Mr. Walters won with good blooms of Général Jacqueminot, Marie Baumann, Marchioness of Londonderry, A. K. Williams, Marchioness of Exeter, Her Majesty, Gustave Piganeau, La France, Mrs. J. Laing, Camille Bernardin, Madame Gabriel Luizet, and Alfred Colomb. Mr. T. Ellen was second, and Mr. G. Lucas third in a good competition. Mr. Walters also had the best six Teas, showing Catherine Mermet, The Bride, Marie Van Houtte, Madame Lambard, Souvenir d'un Ami, and Bouquet d'Or. Mr. G. Lucas was second, and Mr. E. J. Dines third. Mr. C. H. Parry had the best dozen Roses in the amateurs' section, the best blooms being Mrs. J. Laing, A. K. Williams, and Her Majesty. Mr. R. E. West was a fair second,

and Mr. W. J. Tonbridge third. Mr. R. E. West was a good first with six blooms, followed by Mr. L. W. Lasley second, and Mr. W. J. Tonbridge third. Mr. Lasley showed six good Teas, which took the premier award, and Mr. C. H. Parry followed with the second place.

Mr. W. C. Hollands, Tunbridge Wells, won the first prize for a group of plants. The arrangement was elegant, but might have been improved by the introduction of a little more flower. Crotons, Begonias, Caladiums, and Maidenhair Ferns were used to advantage with Selaginella and Sibthorpia europæa variegata. Mr. G. Mount, Canterbury, was second with a pretty group consisting of Lillium Harrisii, Begonias, Crotons, and Palms. Mr. George Clark, Dover, was placed third, but the arrangement was too crowded. Mr. W. R. Pierce was a fair fourth. Mr. J. R. Sloper had the best group of plants in the gardeners' class, showing a pretty combination of Crotons, Fuchsias, Coleus, Lilliums, Palms, and Ferns. Mr. E. Haselden was a poor second. Mr. G. Lucas won in the class for a group of lesser dimensions with an elegant exhibit, consisting of well grown plants. Mr. E. J. Dines was second, the group being a little too heavy, and Mr. J. Haselden was third.

The first prize for the best six foliage plants was won by Mr. Walters with good specimens; Mr. J. R. Sloper was second, and Mr. J. Haselden third. Mr. W. Featherstone had the best six flowering plants, and for six Ferns Mr. R. Noble claimed the premier honour. Mr. J. Haselden showed half a dozen well-flowered Begonias, which won first prize in the class set apart for them. The second prize went to Mr. J. R. Sloper, and the third to Mr. T. Norris. Mr. J. R. Sloper won with six Gloxinias, showing well-flowered plants; Mr. Walters was a moderate second. The first prize for a collection of herbaceous flowers was well won by Messrs. G. & A. Clarke, Dover. Included in the exhibit were Campanula latifolia, Veronica elegans, Iris Kempferi, Scabiosa caucasica, Lathyrus latifolius albus, and Lychuis Haageana. Mr. George Mount had a good collection, which took the second award, and Mr. J. Charlton, Tunbridge Wells, was placed third. The competition in this class was keen, and it was one of the most attractive in the show.

Mr. J. Higgins was awarded first prize for two bouquets, but Messrs. G. & A. Clark ran him very close in the second prize exhibit. Very great interest was taken in the ladies' competition for floral designs. Miss F. Goodwin won the first prize for an epergne of flowers with a most elegant arrangement of Sweet Peas. Miss J. Fairweather was second with an epergne of Roses, which was too heavy to be effective; Miss Ellen was third with a Sweet Pea arrangement. There was a good competition for baskets of Roses. Miss E. Warsam won with a very pretty basket, Mrs. W. R. Pierce being second, and Miss B. Hunt third. Miss Peckham won in the class for a basket of flowers, followed by Miss F. Goodwin and Mrs. W. R. Pierce in the above order. The last-named exhibitor had the best three buttonholes, and also gained highest honours for a lady's spray.

Some fine vegetables were shown, and in the Society competition of collections of vegetables for a challenge shield offered by Mr. M. Greenwood first honours were won by the Canterbury Gardeners' Society. Peas, Tomatoes, Potatoes, Onions, Cauliflowers, and Cucumbers were fine. The Herne Gardeners' Society occupied the second place, but the quality here was not quite so good as a whole. The Littlebourne Cottage Gardeners' Society was a good third, and the Milton and Sittingbourne Society occupied the fourth place. Mr. Walters won with a dish of Tomatoes, and for a brace of Cucumbers Mr. J. R. Sloper took the highest award. Fruit was fairly well shown. Mr. Walters won with a collection in which were good Strawberries and Nectarines. The same exhibitor also had the best three bunches of black and white Grapes respectively.

In the miscellaneous section Mr. George Mount, Canterbury, staged a collection of Roses and hardy flowers. Amongst the former were fine specimens of all the best known kinds, arranged in stands, and taste was displayed in the dispersal of the hardy flowers. Mr. G. Clark, Dover, staged a pleasing collection of hardy flowers. Mr. G. D. Fairweather, gardener to J. A. Miller, Esq., Bifrons Park, set up a pretty group of plants, not for competition. Mr. M. Greenwood, Canterbury, was represented by an exhibit of horticultural sundries, and Mr. J. Woodcock, Canterbury, sent a collection of hardy flowers.

THE YOUNG GARDENERS' DOMAIN.

STEPHANOTIS FLORIBUNDA.

STEPHANOTIS floribunda holds a prominent position amongst sweet-scented flowering plants, and grown in the shape of a trained specimen plant it is most useful. It belongs to the order Asclepiadaceæ, and is a native of Madagascar. The pure white fragrant flowers make it very attractive, and no garden of any pretension should be without it. With good culture the Stephanotis is very free flowering, but it does not require (as is often thought) a strong moist heat to produce an abundance of bloom. Under such treatment it will grow with great rapidity, but the crop of flowers will be small in comparison to the amount of growth made. If, however, the aim of the cultivator is to produce a plant as large as possible in the shortest time, the above method must be practised.

But if flower is the main object from the start, then the greatest return will be obtained by growing it in an intermediate house, where it can obtain as much light as possible, and air on all favourable occasions. The blooms are produced on the young wood, and light and air are of the utmost importance to solidify this as it is formed. From my experience the Stephanotis enjoys a much drier atmosphere than many stove plants. In an intermediate house it will be found most valuable, and will make

itself at home, and ramble with great freedom over the roof. If it is required for exhibition purposes it can be grown on the roof, then taken down, and trained on a shape. If this method is followed it is advisable to train the young shoots on small string, as they are much inclined to curl round their support, and the string can be cut away.

Propagation is readily effected by cuttings taken when the plant commences to grow, and placed in a brisk bottom heat. The soil best suited to *Stephanotis* is a mixture of two-thirds peat, one-third rich fibrous loam, and a good sprinkling of sand added to make the whole porous. When grown in very strong heat it becomes a prey to that filthy insect mealy bug, and if any exist in a house it is sure to find its way to the plants. The best way to destroy the bug is sponging with soft soap, and carefully syringing with paraffin and water, which should be kept stirred when being used.—S. S.

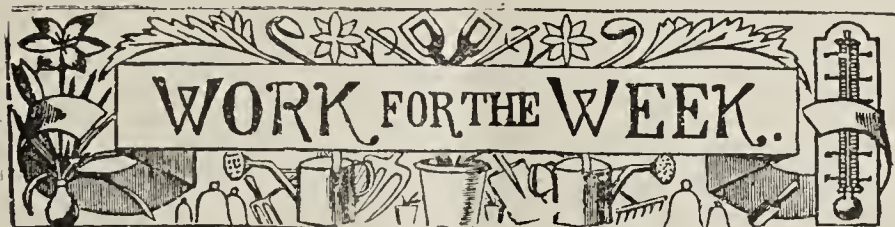
HUMEA ELEGANS.

LIKE so many of the numerous introductions from Australia, these desirable plants are extremely useful for decorative purposes. Every greenhouse should contain a few of them, for they make a pleasing variety, and their long feathery spikes are at once distinct, and charming adjuncts to the list of flowering plants at this season. *H. elegans* is the only species of the genus.

The plants are easy to grow, and with ordinary care large specimens can be had in a year from sowing the seeds. The present month is a suitable one for making a sowing, though I have seen good plants obtained by sowing early in September; but if large specimens are required seeds should be sown in July. Sow in pans of light soil, and shade the pans until the seedlings show through the soil, and when the young plants are large enough to handle pot them singly into 60's. Keep them in the greenhouse—preferably on the shelf—till growing freely, when they can be removed to a frame having a layer of moist ashes for the pots to stand on. The syringe can be used with much benefit at all times except when in flower.

Transfer to larger pots as required, and if they make satisfactory growth a shift into 10-inch pots in the spring is not too large to flower them in. An ordinary greenhouse temperature suits them well during the winter. The compost I find to suit them best is a mixture of rich loam and decayed manure in equal parts, with a little coarse sand to insure porosity. Pot firmly, and take care they never suffer from want of water and nourishment at the roots. Being gross feeders occasional applications of liquid manure are beneficial to them; it helps the spikes to develop and the plants to retain their bottom leaves.

Of pests, the worst are green fly, which generally infests the under side of the leaves. Dusting with tobacco powder and the free use of the syringe are the best means of eradication. The plants must, however, be frequently examined; for if they are neglected in this respect the leaves quickly turn yellow.—NIL DESPERANDUM.



HARDY FRUIT GARDEN.

Thinning Apples and Pears.—Long established trees have a habit of casting off a large proportion of fruit when an abundant crop has set. This is due to various reasons, and is a natural method of reducing the fruits to a safe number which the trees are able to carry. Heavy crops overburden the trees, and there is usually insufficient nutriment available to perfect a large crop. Those fruits, therefore, which take the lead in swelling have the best chance of surviving. It is frequently the case, however, that too many fruits fall, or swell imperfectly owing to the space for the extension of roots and branches being limited. Thus moisture in the soil is abstracted at an important time when a continuous supply is required to render soluble the food material present.

Small trees with a heavy crop are in danger of bearing exhaustively if few fruits drop from the trees naturally, but this can be obviated by a course of thinning, finally reducing the fruits to one on a spur. Dessert varieties especially, grown on cordons, bushes, and pyramids, may readily have the fruits reduced with the result of securing much finer specimens. Young trees not well furnished with permanent wood ought to have the fruit, if plentiful, liberally thinned.

Destroying Insect Pests.—The most troublesome pests to fruit trees are green, black, and blue fly or aphides, red spider, American blight, and the caterpillars of various moths. Aphides may be destroyed by dipping or syringing infested shoots several times with an effective insecticide. Cordon and other trees against walls, consisting of Apples and Pears chiefly, are the most troubled with the caterpillars of certain moths, which attack the fruit and infest the leaves. The best remedy is hand-picking. Insecticides are not of much use, owing to the webs closing the leaves together.

Red spider is prevalent on trees in hot positions, or which may be suffering from lack of moisture at the roots. Copious waterings should be applied to the roots, following by a mulch, and the infested foliage ought to receive repeated syringings with an insecticide. American blight can only be effectually treated by carefully going over, with a brush dipped in petroleum or spirits of wine, all the Apple trees attacked. This

destroys all the blight it touches, but it must not be used too freely, especially on young wood, the tissues of which it soon destroys. This pest is more evident now than in the winter, therefore it is easily located, and measures directed to its destruction, but they must also be followed up in winter. The syringe is useful in maintaining the trees in a clean condition after pests have been subdued.

Wall Trees.—*Apricots, Peaches, and Nectarines.*—Though these trees may have been dealt with several times in the matter of laying-in shoots, there probably will be some regulation required. A proper selection of young shoots must be secured all over the trees, training them in the desired directions for occupying the positions intended when the fruit has been gathered. Fruitless shoots, however, may be cut out, and other useless parts dispensed with now, when the new wood may at once occupy the spaces. This thorough treatment of the trees renders them much easier to keep clean, and the wood has a better chance of ripening perfectly.

Plums and Cherries.—Fan-shaped trees are much improved by laying in young wood freely where there is space and cutting out the older. Avoid crowding in all instances, or the objects sought will be frustrated. Of the Morello type of Cherries more shoots may be laid in than would be advisable in the case of dessert Cherries.

Outdoor Figs.—Leave a good selection of well placed young growths distributed over the trees, but do not shorten them at all. The shoots bearing the fruit ought now to be stopped two or three leaves beyond the fruit. Sappy wood breaking away in any part rub or cut out entirely.

Outdoor Vines.—The chief items requiring attention are the stopping of sub-lateral shoots to one leaf, the lateral or side shoots having previously been shortened to a point a few leaves beyond the fruit. Canes for future fruiting may, if necessary, be laid in in suitable positions, stopping them at about 4 feet, so that the buds below may be well plumped up, but allow another leader to extend on each. Thin the bunches of fruit sufficiently so that the berries may swell to a fair size. Afford water and liquid manure to the roots, and mulch the soil for conserving moisture in dry, hot weather.

FRUIT FORCING.

Figs.—*Trees in Pots for Early Forcing.*—These must be kept free from red spider by syringing at least once a day, in hot weather twice; and if this is not sufficient, employ an insecticide. Afford liquid manure to the roots to insure a supply of nutriment, and the storing of assimilated matter in the wood. Pinching, to induce a neat habit in young plants with fruitfulness, must be attended to, regulating the stopping by the vigour of the plants and the varieties. Where trees have to be bought for very early forcing in the coming season orders should be placed without delay, to secure those with thoroughly ripened wood and duly prepared for the purpose. The best varieties for early work are Early Violet and St. John's, Pingo de Mel and Brown Turkey—the first two with small, and the last two large fruit.

Second Crops.—Planted-out trees started about the new year will have the second crop in an advanced state, and it must have a final thinning, if not already effected, reserving those fruits near the base of the growths, which finish better than those near the points. Attend regularly to training and stopping the shoots, keeping the points well exposed to the light. Train thinly, tie loosely, and leave plenty of space in the ligatures for the shoots to swell. Stop side growths at the fifth leaf, and rub off those not required. Afford water copiously through a light mulching of short lumpy manure, none surpassing horse droppings duly sweetened. Liquid manure will be necessary, according to the vigour of the trees and the extent of the rooting area. Trees in narrow borders may need it every day, others at longer intervals. Forcibly dislodge red spider by syringing twice a day, which, with proper feeding, will occasion little need of insecticides; but scale must be removed with a brush and an insecticide. Admit a little air constantly, increase it early, close with plenty of atmospheric moisture, allowing the heat to rise to 90°, and the fruit will swell to a good size.

Peaches and Nectarines.—*Early Forced Trees.*—Those started at the new year or before have been cleared of fruit, and the wood on which it was borne removed. This and the taking out of any superfluous growths admits air and light, so that the wood becomes hard and brown, and the buds attain perfect formation, but this is contingent upon clean foliage and proper supplies of nutriment. Mulching with rather light lumpy manure an inch thick will keep the surface moist, the roots active, prevent the soil cracking, and assist in the retention of the foliage in health. The buds will be sufficiently advanced and the wood matured to allow the roof lights to be removed, and this should not be further delayed.

Succession Houses.—The crops are ripening on trees that were started in February: indeed, the very early varieties have been cleared of their crops. As the fruit is removed cut out the wood that has borne it, thinning the growths where they are so close that the foliage cannot have exposure to light and air. Cleanse the growths by means of the syringe or engine with water, of dust and red spider or other insects, using an insecticide if necessary. Keep the borders moist, not soddened, using liquid manure if required. Stop all laterals to one joint, but where the buds are in an advanced condition allow a little lateral extension, which prevents premature falling of the foliage by continuing the root action. When the buds are well formed, the fruit having been cleared off the trees, remove the roof lights. If under fixed roofs ventilate to the fullest possible extent.

Trees Swelling their Crops.—Trees started in March have stoned the fruit. Draw the leaves aside, and raise the fruit by means of laths with its apex to the light. Water the inside border, and outside if inclined to dryness, affording liquid manure and a light mulch of lumpy material.

Ventilate early, having a little air on all night, syringe by 7 A.M., and through the early part of the day ventilate freely. When the sun loses power in the afternoon reduce the ventilation so as to maintain a temperature of 80° to 90° about 4 P.M., with a syringing once or twice a day and damping of surfaces; but have the fruits dry before night. Directly the fruit commences ripening cease syringing, but afford air moisture by damping the floor and border whenever they become dry, ventilating rather freely, and admit a little air throughout the night.

Late Houses.—If it is desired to accelerate the ripening ventilate rather freely in the early part of the day, and up to early in the afternoon, then keep the heat obtained by reducing the ventilation so as to secure 80° to 85°; 4 P.M. close, syringing well. Regulate and tie down the shoots as they advance, allowing no more than are necessary for next year's fruiting, or for furnishing the trees. Any gross shoots pushing laterals from the leaf buds may be cut back to where the buds remain intact. Draw the leaves aside from the fruit, which raise on laths with the apex to the light.

Wall Cases.—Secure the growths to the trellis as they advance, being careful to allow space in the ties for the swelling of the shoots. Keep the shoots so thin that every leaf has full space for development and exposure. Syringe about 7 A.M., the structure having a little ventilation constantly, increasing this with the advancing temperature to 75°, or if it is desired to accelerate the ripening maintain a temperature of 80° to 85° by day. Syringe about 5 P.M. Red spider will not make much headway provided the syringing is thorough and the trees are well supplied with water at the roots.

THE BEE-KEEPER.

ATTENTION TO SUPERS.

ALTHOUGH the weather has been so precarious we have already some well-finished sections; others in this district have supers in various forms well advanced towards completion; whilst a correspondent in the south, writing on the 4th inst., says, "Three weeks ago I took off fifty well-finished sections; at the same time I extracted a quantity of honey, which was afterwards bottled. It is the darkest I ever had. I think it was obtained from the Rhododendrons, as they were a mass of bloom at that time, and the bees were taking their flight and returning from that direction. To-day I have extracted upwards of 70 lbs., and have six more stocks to take the supers from. I think I have no reason to complain. The last sample of honey is of much better quality than the first."

The above report comes from a well-known gardener who became a subscriber to the *Journal of Horticulture* after starting bee-keeping on the modern system. Another equally well-known gardener in the Midland counties, but not quite as much an enthusiast in bee-keeping as the former, writing about the same date, says, "I have already taken a nice super off a hive in which was placed a swarm last year. This stock was wintered on five frames. Instead of enlarging the brood nest I placed a super on top of the frames, about May 20th, but omitted filling the empty space at the back of the division board, which I suppose I ought to have done. On removing the super I found the whole space, where the frames ought to have been, filled with honey, about 4 square feet of comb, which was all labour wasted. Of course I ought to have examined them before."

The dark honey mentioned by the former was obtained from the Rhododendrons, we have no doubt, as we have observed this, but only in a limited degree, before; and had the latter, when placing a super on only five frames, taken the precaution of filling the empty space underneath the super with spare coverings, or something similar, from the top of the frames, the bees would not have wasted their energy in filling it with comb; and had there not been extra super room provided for them they would probably have swarmed. Bees will not enter supers so long as there is an empty space underneath.

Restricting the brood nest is an excellent plan to adopt when the bee-keeper is anxious to obtain honey early in the season. It should, however, be afterwards enlarged, and if an inclement season follow the brood chamber may be again restricted, so as to compel the bees to work in supers.

The reports above, coming as they do from districts widely separated, show that although the season, from a bee-keeper's point of view, has not been all that could be desired, still a surplus has been stored, varying in quality and quantity. There is still time, however, for this to be greatly added to. In the meantime bee-keepers should not leave anything to chance. Stocks on which there is already a crate of sections partly sealed over, ought to have another crate of empty sections placed underneath, and the whole covered up warm. But all will depend on the weather.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

Ant. Roozen & Son, Overveen, Haarlem.—*Dutch and Cape Bulbs.*

L. Späth, Baumschulenweg, Berlin.—*Bulbs and Plants.*

Tokio Nurseries Co., Komagone, Tokio, Japan.—*Plants, Bulbs, and Seeds.*

TO CORRESPONDENTS

All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Grapes Scalded (L. J. R.).—The berries are badly scalded, and you cannot do better than read the leading article on the subject in the *Journal of Horticulture*, July 14th.

Increasing Malmaison Carnations (G. G.).—Where time is a consideration recourse is had to propagation by cuttings, this being the common practice with those varieties not giving "grass" sufficiently low down or abundantly for layering. Of course, these would give growths in due course for layering.

Mixing Chemical Manures (Wakopa).—No "base" whatever is necessary, nor does any exist. The "trade secrets" apply to the substances and proportions employed, with such material added as may be necessary to prevent deterioration. This will not apply in your case, therefore compound to your heart's desire, and apply without more loss of time than necessary.

Buckland Sweetwater Grapes Shankd (Young Grower).—The bunch is stem-shanked, and may have been caused by some injury, but more likely by water dripping upon it. As the other ten bunches on the Vine have no shanked berries there cannot be much amiss with the roots. If, however, the shanking develops, we should advise lifting the Vines, and winter-dressing the rods with a solution of sulphate of iron, 1 lb. to 1½ gallon of soft water, applying with a brush in a careful manner while the Vines are quite dormant.

Purple Filbert (J. C. L.).—The shrub is the purple-leaved Filbert (*Corylus Avellana tubulosa purpurea*). It is a very ornamental and distinct plant, as deeply coloured in the leaves as the finer varieties of Purple Beech, the nuts and husks being of the same hue, the latter retaining it longer than the nuts, these being of excellent quality. It is a very desirable shrub, far too little planted in shrubberies. It also makes first-rate underwood, brightening up Hazel wonderfully.

Vine Leaves Diseased (Cymro).—The Vine leaves are perfectly innocent of red spider or thrips, indeed those of Lady Hutt and Alicante are perfectly clean and singularly healthy. On the Gros Colman there are a few reddish pimples, and we should give this particular Vine a dressing of best chalk lime, air slaked, and soot in equal parts by measure, using ½ lb. of the mixture at once, and point in very lightly. This will probably improve the colour of the leaves, and we should also use a little sulphur on the hot-water pipes, not heating so as to give off very strong fumes. After a time you may follow with bone superphosphate, five parts; nitrate of potash, three parts; sulphate of magnesia, two parts, and ground gypsum, one part, mixed, using 4 ozs. per sq. yard. This will enable the Vine to finish, and do better another season.

Ferns Infested with Insects (Idem).—The blackened condition of the *Phlebodium* frond may have arisen from moisture being condensed on it and remaining some time, then suddenly evaporated by air-giving. The frond of *Dicksonia* may have been browned in a similar manner. Of the insects there can be no question, a worse case not having come under our observation. The under side of the fronds simply swarms with mealy bug in every stage. You say nothing about remedies. Well, here are two. 1. Vapourise with nicotine essence by means of the XL All vapouriser on two or three consecutive evenings, taking care to have the foliage of all the plants dry by rather free ventilation through the day and up to closing in the evening for vaporisation, and carefully following the instructions. 2. Spray the plants on the under side of the leaves with methylated spirit, using an atomiser or Stone's pneumatic sprayer, and in the finest possible manner, as too much will injure the fronds, which must not be wet when the spraying is done.

Young Gros Colman Vine Diseased (*Vitis*).—The Vine had many of its roots decayed, and the cane, therefore, has made indifferent progress. When planted the root system appears to have been excellent, yet the Vine has not thriven, though given every advantage as regards border composition and good management, there not being anything wrong in those respects. The intact Vine, except one leaf removed for microscopic examination by yourself in dread of phylloxera, was perfectly clean above ground; but at the collar, or just within the part that had been covered with soil, was a small swelling, due to root-stem eelworm (*Tylenchus obtusus*), and this pest is the cause of the Vines not thriving. The pests have destroyed the roots to a great extent, and no doubt were introduced in the turf. The procedure you propose to adopt is correct, but we should give the border a good dressing of lime—say, 2 lbs. per square yard, slaked, and allowed to cool before pointing-in, and mixing with the soil to the depth of a foot. Best chalk lime only should be used, not magnesian, and it would be best air-slaked, as you propose to plant at once. As there are other Vines near by, it may not be possible to use scalding water, but on that point you must exercise judgment. The growth from the Gros Maroc is magnificent.

Carnations and *Myosotis azorica* diseased (*R. B.*).—The Carnation has the spot disease fungus (*Septoria dianthi*), which not only seriously disfigures the leaves, but attacks the stem and prevents the development of the flowers. Associated with the parasite named is another fungus, which kills the leaf sheaths, and sometimes the entire leaf. The *Myosotis azorica* gave from the pith the fungus named *Fusarium myosotidis*, and from the external parts that called *Volutella hyacinthorum*. We advise a dressing of quicklime, best land lime, not magnesian, applying $\frac{1}{2}$ cwt. per rod, or about $1\frac{1}{4}$ lb. per square yard. Place in small heaps, and slake with the smallest amount of water necessary to cause the lumps to fall to a fine powder, and spread on the land while hot. Allow it to lie a day or two, and then point it in with a fork, taking small spits so as to mix the lime with the soil about 10 inches deep. In the autumn apply a dressing of kainit, 4 ozs. per square yard, and leave for the rain to wash in. On fresh ground use a pound of quicklime per square yard some little time in advance of planting, pointing in, and then follow with kainit 2 ozs. per square yard. As a still further safeguard the plants may be occasionally dusted, but very lightly, with anti-blight, fostite, or other fungicide in powder. The manure, if any, should be in a thoroughly decomposed condition.

Greenhouse in Suburban London (*Amateur*).—Many find much pleasure in a greenhouse in the dust and smoke of London, it being anything but a "white elephant." At this time of year the ventilators may remain open a little at night, and they should be opened to their fullest extent early in the morning, not reducing the ventilation until the sun has left the house, or about 6 P.M. You will have a temperature of 60° at night, or more in warm weather, and over 50° in dull and cold, so that no artificial heat is necessary now, nor will be until the occurrence of frost at the end of September or beginning of October, if then. From that time during winter maintain a day temperature of 45° to 50°, and night of 40° to 45°. At this time of year the house should be sprinkled in the morning, well damping the path and floor, repeating in the afternoon about five or six o'clock, then syringing any plants not in flower. As you have Vines no great success can be expected with flowering plants, especially if the former cause considerable shade. The seeds may require bottom heat to insure quick germination, but they usually come well by covering the pots or pans with panes of glass and keeping evenly moist, but not too wet. The Lilioms would certainly be better outdoors now, similar remarks applying to the "*Geraniums*," as both require more light than a vinery affords, though the latter do fairly well. The fibre you name has been found useful, but there is nothing like a substantial soil for plants to grow in, duly enriching it with other material.

Pest on Asparagus (*J. E. E. G.*).—The beetles were quite lively when received. It is the twelve-spotted Asparagus beetle (*Crioceris asparagi* var. *twelve-spotted*), which you accurately describe:—"Small beetle, reddish body, on the back six spots, and three spots yellow in colour on dark brown ground on each side of the back." The Asparagus is no doubt seriously injured by the beetles in the early part of summer feeding upon the juicy parts of the heads as they form underground, thus the beds give a poor supply. The larvæ are hatched from the "innumerable small black eggs" in about ten days after deposition, and the grub state lasts for about fourteen days, when the larvæ pass into the soil and undergo transformation into pupæ in a slight cocoon just beneath the surface, emerging as beetles in the course of fourteen to twenty-one days. There are several broods in a season—the first about the middle of June, next about a month later, and so on till the end of September or beginning of October. Some of the late summer beetles hibernate, while the latest larvæ pass the winter as pupæ in the earth, and emerge early in spring, to feed on the heads of Asparagus before they appear above ground. In this stage the beetles are somewhat difficult to deal with, but a dressing of kainit, 4 ozs. per square yard, has a good effect upon them, and also benefits the "grass." It acts better than salt, though we have found this excellent. The remedy you propose—namely, Jeyes' fluid—makes quick work of the beetles, and also promotes the growth of the Asparagus afterwards. It must not be used too strong, about a wineglassful to 3 gallons of soft water, applying by means of a rose watering can, at the rate of about half a gallon of the solution per square yard. We use hot water, the grass enduring it at from 115° to 130°, according to its age, and at the first it kills the larvæ and addles the eggs. It has also the advantage of killing any beetles reached by it in the ground, and does no harm to the grass. For the grubs we have used quicklime very successfully, operating in the morning, when the grass is damp with dew. We have also used soot early in the morning advantageously, this greatly benefiting the Asparagus.

Tops of Young Cucumber Plants Decaying (*Tyro*).—The usual cause is condensation of moisture on the tender parts during the night, and the evaporation of this in the early part of the day, which results in scald, then decay sets in. The plants usually grow out of it as you accurately describe. The only preventive is less moisture, but that would perhaps prejudice the older plants in the house, and on that point you must exercise judgment, so as to meet the requirements of the case. In the southern parts of the kingdom Tomato houses usually run north and south with good results, but those running east and west are regarded by many as more desirable for early work. This accords with our experience between the Tees and the Thames, but the best Tomatoes we have seen had the benefit of a house with one side facing south east and the other north-west.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*P. C. H.*).—1, *Melilotus albus*; 2, *Dictamnus Fraxinella alba*; 3, *Acer negundo variegata*; 4, *Lychnis chalcidonica*. (*G. A. G.*).—1, *Veronica spicata*; 2, *Dianthus atro-rubens*; 3, *Cistus ladaniferus*; 4, *Geranium maculatum*; 5, *Tradescantia virginica*. (*Fairview*).—*Lychnis dioica* fl. pl. (*W. P.*).—1, *Pittosporum undulatum*; 2, *Rhus cotinus*; 3, *Dictamnus Fraxinella*. (*Briza Maxima*).—*Hordeum jubatum*, or Squirrel-tail Grass; another name is Maned Barley. (*W. A. F.*).—*Cratægus tanacetifolia*.

COVENT GARDEN MARKET.—JULY 20TH.

Trade very quiet generally.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve ...	0 0	to 0 0	Grapes, lb....	1 6	to 3 0
Cobs ...	0 0	0 0	Lemons, case ...	11 0	14 0
Filberts, 100 lbs. ...	0 0	0 0	St. Michael's Pines, each	2 6	5 0
Gooseberries, $\frac{1}{2}$ sieve ...	1 6	2 0	Strawberries ...	1 6	3 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0 0	to 0 0	Mustard and Cress, punnet	0 2	to 0 4
Beans, $\frac{1}{2}$ sieve ...	0 0	0 0	Onions, bushel ...	3 6	4 0
Beet, Red, doz. ...	1 0	0 0	Parsley, doz. bnchs...	2 0	3 0
Carrots, bunch ...	0 3	0 4	Parsnips, doz. ...	1 0	0 0
Cauliflowers, doz. ...	2 0	3 0	Potatoes, cwt. ...	2 0	4 0
Celery, bundle ...	1 0	0 0	Salsafy, bundle...	1 0	0 0
Coleworts, doz. bnchs.	2 0	4 0	Scorzenera, bundle ...	1 6	0 0
Cucumbers... ..	0 4	0 8	Seakale, basket...	1 6	1 0
Endive, doz. ...	1 3	1 6	Shallots, lb. ...	0 3	0 0
Herbs, bunch ...	0 3	0 0	Spinach, pad ...	0 0	0 0
Leeks, bunch ...	0 2	0 0	Sprouts, $\frac{1}{2}$ sieve ...	1 6	1 9
Lettuce, doz. ...	1 3	0 0	Tomatoes, lb. ...	0 4	0 9
Mushrooms, lb....	0 6	8	Turnips, bunch...	0 3	0 4

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6 0	to 36 0	Heliotrope, doz. ...	4 0	to 6 0
Aspidistra, doz. ...	18 0	36 0	Hydrangea, doz. ...	8 0	10 0
Aspidistra, specimen ...	5 0	10 6	Lilium Harris, doz. ...	12 0	18 0
Calceolaria, doz. ...	4 0	6 0	Lobelia, doz. ...	3 0	4 0
Coleus, doz. ...	3 0	4 0	Lycopodiums, doz. ...	3 0	4 0
Dracæna, var., doz....	12 0	30 0	Marguerite Daisy, doz. ...	6 0	9 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	4 0	6 0
Erica various, doz. ...	12 0	24 0	Musk, doz. ...	2 0	6 0
Euonymus, var., doz. ...	6 0	18 0	Myrtles, doz. ...	6 0	9 0
Evergreens, var., doz. ...	4 0	18 0	Palms, in var., each ...	1 0	15 0
Ferns, var., doz. ...	4 0	18 0	" specimens ...	21 0	63 0
" small, 100 ...	4 0	8 0	Pelargoniums, scarlet, doz.	4 0	6 0
Ficus elastica, each ...	1 0	7 0	" " " " " "	8 0	10 0
Foliage plants, var., each	1 0	5 0	Rhodanthé, doz. ...	4 0	6 0
Fuchsia ...	5 0	8 0			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blooms ...	3 0	to 4 0	Mignonette, doz. bnchs. ...	1 6	to 3 0
Asparagus, Fern, bunch...	2 0	3 0	Myosotis, doz. bnchs. ...	1 0	2 0
Bouvardias, bunch ...	0 6	0 9	Orchids, var., doz. blooms	1 6	9 0
Carnations, 12 blooms ...	1 0	3 0	Pelargoniums, doz. bnchs.	3 0	6 0
" 12 bnchs. ...	4 0	8 0	Polyanthus, doz. bnchs....	1 0	1 6
Eucharis, doz. ...	3 0	4 0	Pyrethrum, doz. bnchs. ...	1 0	1 3
Gardenias, doz. ...	1 0	4 0	Roses (indoor), doz....	0 6	1 6
Geranium, scarlet, doz.			" Red, doz. ...	0 3	0 6
bnchs. ...	0 0	6 0	" Tea, white, doz. ...	1 0	2 0
Iris, doz. bnchs. ...	4 0	6 0	" Yellow, doz. (Perles)	1 0	2 0
Lilac (French), bunch ...	3 6	4 0	" Safrano (English) doz.	1 0	2 0
Lilium longiflorum, 12 blms	3 0	4 0	" Pink, doz. ...	1 6	3 0
Lily of the Valley, 12 sprays	1 0	2 0	" Moss, per bunch ...	0 9	1 0
Maidenhair Fern, doz.			Smilax, bunch ...	1 6	2 0
bnchs. ...	4 0	8 0	Sweet Peas, doz. bnchs. ...	1 6	3 0
Marguerites, doz. bnchs.	1 6	2 6			



GLEANINGS.

NOT from the corn fields as yet. As far as our judgment goes harvest cannot be an early one. It is marvellous what a hot July may and can do, but Wheat that did not "bloom" till the middle or rather the end of June must have six weeks before being ready for the reaper. We do not like too rapid progress in ripening, it generally means deficiency of quantity and quality. This year's straw will be wheaten. We think nothing can bring up the Barley and Oat straw to more than just passable average.

However clean, bright Wheat straw is a valuable commodity, and it is such a comfort to think there need be no shortness for bedding or thatching purposes, and certainly you cannot have corn without straw to support it. Early in the season there was much complaint as to "rust" in Wheat, but it appears to have yielded to the more genial weather. We have heard this spring of "rust" attacking Barley as well as Wheat.

If America has a favourable harvest, her output of Wheat must this year be large—43,000,000 acres, as against 39,000,000 last year, and about the same quantity in 1891. We have not yet seen any estimate of the European Wheat crops. Personally we prefer to make an estimate after the first day's work with the threshing machine; but then we are old-fashioned, and do not like to prophesy before the fact.

Has this last been a "dripping" time? We rather thought so, but it appears we have been misled by appearances. The showers we saw and felt were not in reality so heavy as we thought. Rain from N.E. always seems to search, and to last. The rainfall for June was 1.282 inch, as against last year's 3.569; but if we had not excess of rain, we certainly had excess of cold—fires in the evening up to June 21st, and a sharp frost on the night of the 14th. The temperature was at least 4° or 5° below the average during the month, and we find that in many things (Roses to wit) we are at least a fortnight behind our usual time.

Wool buyers are coming round. They shake their heads and talk of poor prices. Where are the days when wool made 2s. 6d. per lb., and the farmer's wife had quite a nice little revenue from her share, the "locks" or "dockings," as they are called?

Still another butter substitute in the market, with a most seductive name, "Butterina." What difficulties the poor farmer has to contend against! Surely pure butter is cheap enough for everyone's purse. We only hope the inspectors whose duty it is to see that substitutes are not sold as the real thing will be on the alert. The penalties are heavy enough should a fraudulent trader be caught—£20 first offence, £50 second, £100 third. But it is the public who are to blame. Why will they insult their stomachs by making them the receptacles of such nastiness? This cry for cheapness is the ruin of legitimate trade. How about the imported milk from Normandy? It may do for adults, but if it contains any preservative (and it is almost sure to do so), it is most unfitted for infants.

In 1897 we paid £71,500,000 for imported animal produce, being nearly £5,000,000 in excess of 1896. A very fair butcher's bill when added to our home production. Let us hope this means that more people are in a position to feed themselves better—it looks like it.

The daily papers are full of accounts of agricultural shows. How these shows do multiply! Where does all the money come from, and is it wisely spent money? One gentleman complains bitterly that at the "Royal" all butter and cheese is safely guarded by glass cases; he contrasts this with the liberality of the Bath and West of England Show, where apparently the butter and cheese are freely sampled. Well, we rather agree with him, we ought to know how first-class butter eats as well as looks. At one Devonshire show the prize cheeses are distributed, possibly with an accompanying biscuit and a bit of Celery.

By-the-by, what an awful disappointment the attendance, or rather non attendance, of the people at the Royal must have been to the executive? How did it happen? Do not the Midlands care for

agricultural displays, or was the site too far out of town? Fancy 98,278 as against 217,980 at Manchester last year. The thing seems absurd.

How is the compensation Act for injury to workmen going to affect the farming community? We do not quite know yet. The poor employer seems to stand a very bad chance. Surely there will be found to be some mode of insurance. Happily on a farm accidents are few and far between.

We see one farmer advises his brethren to "get rid of any horse that has a tail." Well, a kicking horse is a nasty thing on a farm. We never heard of "kickers" so denominated before, but suppose that the idea comes from the hunting field, where an inveterate kicker is decorated with a ribbon on the tail, which reads, "'Ware heels," to the initiated. It seems hard to have to pay for a man's own carelessness, but this is one of the small ironies of life.

A busy day has been spent; the engine and saw-bench have converted much rough wood into useful fencings and gateposts. Where wood can be got direct from the plantations, there should never be a lack of good fencing material; the time and money are well spent, and it is not a bad plan to finish up with a few logs for winter consumption.

About most farms there is always to be found plenty of hedgerow timber, old baulks, and oddments of all kinds; that properly cut make the most agreeable of winter fuel, not only picturesque, but economical into the bargain. We have already devised a means by which these precious logs may be safely kept under lock and key.

WORK ON THE HOME FARM.

The Turnip crop in the Eastern counties is not making the rapid progress that the crop should if it is to be a good one, and we have done little hoeing as yet; in fact, we have had to clean the Mangold before striking out the Swedes, which has not been our usual experience.

We have seen Mangold look better, but still they are a good plant, and nothing to grumble at. We think a top-dressing of nitrate of soda at the rate of 2 cwt. per acre is all that is wanted to force a very good crop. If Cornwall Potatoes benefit from 20 cwt. per acre of nitrate, we are convinced that English Mangold crops must pay for any dressing up to 5 cwt.

We have got a beautiful crop of Clover in splendid condition; the weather has been windy and dry rather than hot, and the result is a huge heap of fodder green as grass in its natural state, but absolutely dry. As a labourer to-day remarked, "It would make fine tea."

The weather is so favourable that we are cutting our grass at once to take every advantage of it; the crop is a good one, and as the Clover has exceeded our expectations we have hope that the hay may do the same. A good bulk of Clover and hay is a fine thing for the stock-owner to face the winter with. Frost and snow with a thermometer down below zero arouse little fear in his mind, for when Turnips are frozen to solid ice a cutting out of the haystack is always available, and very likely the animals, if they could tell us, would say that they did not mind the cold weather if they always had such warm food.

Wheats have flowered well, look thick and full, very long in the straw, and show no signs of the sharp June frost; Barleys have very much improved, and may now be quite an average crop, but the unevenness resulting from fickle weather is still apparent, and must affect quality if it does not so much reduce quantity.

Potatoes would do now with another good rain; the ridges are rather hard, and a soaking would not only encourage growth, but assist the young fibres to make their way through the baked soil. Strong root action is a great factor in keeping the soil open and in free condition.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.
1898. July.	Barometer at 32°, and Sea Level	Hygrometer		Direction of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Tempera- ture		
		Dry.	Wet.			Max.	Min.	In Sun	On Grass	
	inchs	deg.	deg.		deg.	deg.	deg.	deg.	deg.	inchs
Sunday 10	30.371	55.2	52.4	N.	61.3	61.4	52.0	78.3	49.9	—
Monday 11	30.377	56.3	53.1	N.	59.3	73.9	43.9	119.1	39.1	—
Tuesday 12	30.211	68.9	61.1	N.	60.2	76.6	50.8	124.9	45.9	—
Wednesday 13	29.901	57.9	53.4	N.	62.1	69.8	57.9	116.3	55.2	0.010
Thursday .. 14	30.089	61.8	55.2	W.	61.1	78.1	47.3	119.9	42.3	—
Friday 15	30.164	70.8	63.1	N.W.	62.7	82.9	54.6	127.1	50.1	—
Saturday.... 16	30.140	72.6	61.0	N.W.	64.9	82.7	57.1	127.7	53.8	—
	30.179	63.4	57.0		61.7	75.1	51.9	116.2	48.0	0.010

10th.—Overcast day, with drizzle between 7 and 9 A.M.; clear after 5 P.M.

11th.—Overcast almost all morning; generally sunny afternoon.

12th.—Fine and generally sunny, but cloudy at times.

13th.—Overcast early; slight rain between 8.30 A.M. and 9.30 A.M.; frequent cloud in morning; bright sun from 2 P.M.

14th.—Bright sun almost throughout.

15th.—Warm and sunny throughout.

16th.—Bright sun from sunrise to sunset.

Another fine and (almost) rainless week—G. J. SYMONS.

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Journal of Horticulture.

THURSDAY, JULY 28, 1898.

THE JOURNAL OF HORTICULTURE can be obtained from the Office, 12, Mitre Court Chambers, Fleet St., London, post free for a Quarter, 3/9. Editorial communications must be addressed to 8, Rose Hill Rd., Wandsworth, S.W.

FLOWER FARMING IN ENGLAND.

IN the last issue of the "Journal of the Royal Agricultural Society,"* Mr. W. E. Bear places on record the result of his investigations on the above subject, and these show that England is emphatically a flower-loving nation. No better commissioner could have been appointed than Mr. Bear for the purpose in question. He is just the man to go to the ends of the earth for information if that is necessary, and obstacles must be great indeed if they turn him from his quest. He likes facts and figures, and of the latter he communicates abundance, and if they should not be in every respect exact, it will not be for the want of diligent inquiry. He is no sensationalist, but a searcher for the truth. We have no reason to doubt the accuracy of his representations, nor have we any intention of abstracting the whole of his elaborate report, but simply give a few samples, leaving those who require more of the same nature to obtain them from their source.

With respect to the supply of cut flowers for market, the authority of Mr. J. Assbee, the superintendent of Covent Garden, is cited, and there is none more reliable, to the effect that it has increased five-fold during the last ten years. And Mr. Bear goes on to say:—"From other markets I have received similar information, and it has been fully supported by what I have seen and heard in the course of my journeys in different parts of the country. Not only have new flower farms, and especially bulb farms, been established in various parts of the country, but, more remarkable still, flowers have encroached upon vegetables and even upon fruit in the old market gardens. This is particularly the case around London, culinary vegetables having been driven further afield to make room for fruit first and flowers afterwards, while bush fruits, formerly grown between and under standard fruit trees, have given place to flowers to a considerable extent."

Bulb cultivation receives a large share of attention, and Mr. Bear naturally takes us to the Scilly Isles. From there, he tells us, the

* Spottiswoode & Company.

exports of flowers reached 448 tons in 1893, but that the climax was reached in 1896, when 514 tons were imported; and he goes on to say:—

‘It is worth while to pause for a moment to consider what 514 tons of flowers represent. The steamship owners roughly allow eight boxes to the cwt., or 160 to the ton, the weight of the boxes being included. According to this calculation, 82,240 boxes of flowers, which in the case of Narcissi contained twenty-one to fifty-one bunches (of twelve flowers) per box, and in that of Anemones seventy-two bunches, were sent out of the Scilly Isles in 1896. One grower, who appears to have larger boxes than those referred to above, says that he packs thirty-six to 100 bunches in a box; but the precise accounts kept at Tresco have enabled Mr. T. G. Brown, farm-manager to Mr. Dorrien-Smith, to favour me with the statement that the number of bunches of flowers of all kinds averages about 7000 to the ton of flowers and boxes, and 514 tons would therefore be equivalent to about 3,598,000 bunches.

‘The flower crop in 1897, although a good one, was not so heavy as that of 1896, and the exports fell off to 476 tons. For the present year they will be much smaller in quantity, the crop having proved the worst ever grown, taking yield of flowers per acre. Various reasons for this comparative failure are given, chiefly in relation to climatic vicissitudes in the two preceding years. Certain captious critics attribute it to bad cultivation; but a very small amount of consideration should have been necessary to convince them that a sudden deficiency after years of abundance cannot be mainly the result of faults on the part of the growers. That there are bad as well as good cultivators of bulbous flowers in the islands is admitted by Scilly authorities; but, as even the best growers had a poor crop this season, there must have been some cause apart from cultivation to account for the deficiency.’

From bulbs we are introduced to tubers in the form of early Potatoes, and find how great are the advantages of the salubrious island for their production, though not of course for supplying “cut flowers,” though the digression is more than pardonable—acceptable, and this is what we read:—

“Mr. Dorrien-Smith’s home farm, apart from his extensive grazing ground and the private gardens and shrubberies, is about 100 acres in extent and, with the hothouses for market produce, is under the management of Mr. T. G. Brown, to whom I am indebted for a great deal of information. About 40 acres are under flowers, and 30 acres under Potatoes. There are only three tenants in Tresco; they grow 3 acres of flowers and 5 acres of Potatoes. As evidence of early vegetation, it may be mentioned that on March 15th the most advanced Potatoes on Mr. Dorrien-Smith’s land were so nearly mature that Mr. Brown expected to begin raising them at the end of the month. Unfortunately, the blizzard which occurred a few days later cut the tops badly in exposed situations. Still, I have since been informed that some tubers were dug at the end of March and sold at 4d. per lb.—no doubt the earliest open-air Potatoes raised in England or the Channel Islands this season. The first week in April is not an unusual time for beginning to raise new Potatoes in Tresco, which is a fortnight earlier than any of the other islands in its production.”

The Commissioner is next found at Spalding, in Lincolnshire, discussing with Mr. White the cost of bulbs and planting and cultivating an acre of ground with Narcissi. This spread over three years, which is thought to be fair, is shown, on the data supplied, to be about £266 per annum; and therefore the annual returns would need to be large to cover expenses and afford a profit. Mr. White we are informed, commenced growing flowers for sale about twelve years ago, and now has 4,140,000 Narcissi bulbs on 24 acres of land. It is also said:—

“Mr. White usually begins to pick forced flowers in the first week of January, and finishes at about the end of February or early in March, when the open-air flowers are ready. To show the difference of time between the flowering in Scilly and in Lincolnshire, it may be pointed out that whereas Mr. White began to pick Emperor

and Empress only on April 7th or 8th, the whole of the former and about half of the latter had been marketed from Tresco by March 14th. Again, the old double Daffodil was ready in Scilly at least two months before it was at Spalding this year, and Ornatus one month earlier. Moreover, the first open-air flowers in Scilly were picked quite as soon as the first forced flowers at Spalding.”

The article concludes with a reference to the farm of Messrs. Richard Bath & Co. of Wisbech, of which fifty acres are devoted to flowers, but the foreman at the time of the visit was short of 20,000 bulbs of the beautiful Narcissus Barri conspicuus for planting. A field of 120,000 Roses seems to have attracted attention, plus 52,000 Carnations, 40,000 Clematises, 80,000 Dahlias, and 15,000 Cannas. Mr. Bear is almost equal to anything in the way of collecting and narrating facts, but his subject appears to have about overwhelmed him, and he has to defer its completion till the September issue of the Journal he has served so well. Then follows Fruit, and we wish him further success, as we are convinced he will not knowingly mislead, nor allow his facile pen to descend into the catchpenny regions of sensationalism.

IN THE TIME OF THE ROSES.

THINK not, gentle reader, that the province of the able writers who have enrolled themselves under the banner of the red Rose and the white is to be invaded by an outsider. The royal flower needs all the devotion of her followers, and those whom she favours best serve no other mistress. Thus the writer, who owns allegiance to many flowers, is but one of the host of admirers looking on with delight as the pageant passes before our rejoicing eyes in the heyday of the year. And what a pageant it is!

The very hedgerows are aglow with red or white or creamy Roses. In cottage gardens the old summer Roses have not yet put off their short-lived beauty. In border mingled with other flowers, in Rose plot by themselves, on wall or trellis, clambering up trees or over houses and wreathing them with the glory of colour and grace, in palace gardens down to those of the lowliest cot, in all is the Rose. Purest white, most delicate blush, deepest red, pale pink, rich ruby, palest cream, deepest yellow; who can describe these colours, shades, and tints? Who these varied forms from tiny single blooms to flowers of voluptuous doubleness? At this time, with our eyes and our thoughts full of the beauty of the Rose, it will not be strange if our words of other flowers be more constrained and less jubilant. Yet it need scarce be so if we view aright the dazzling colour, the graceful form, the graces of flower and sweetnesses of perfume yielded by the other flowers around. Each has a charm of its own, and each a power to give a delight peculiar to itself.

Were it not a time of Roses it might well be called a time of Bellflowers, for, in many forms, the Campanulas rear towering spires of bloom or carpet the ground with sheets of little blossoms. None is more delightful than the Peach-leaved Bellflower—*Campanula persicifolia*—which in its many varieties is ever welcome in our gardens. Very beautiful are some of the large-blossomed forms, and it is interesting to see what varieties come among seedlings. Even one patch of such self-sown from two named respectively *C. p. lilacina* semi-duplex, and *C. p. alba* semi-duplex, both having semi-double flowers, has given several distinct seedlings. Among these seedlings there is one with very long and large bright blue flowers—longer and larger than those of the deservedly praised *C. p. Backhousei* or *alba grandiflora*. Some, like the parents, are semi-double, but the greater number are single. In a corner where plants of *C. p. Backhousei* were allowed to seed is found a short-cupped, broad-flowered variety, but blue with a distinct shade of red in its colouring, and beside it another short-cupped form, but of pure white. These varieties may be increased almost indefinitely in course of time. What I should like to have would be more with “cup-and-saucer” flowers, like the coronata forms, so that the shades of colouring might be more numerous. Among other Bellflowers none is more pleasing as this is written than *C. latifolia macrantha alba*, with its tall spikes, or the beautiful dwarf, *C. G. F. Wilson*.

In the little water-pools the Nymphæas are delightful as they open their flowers to the bright sun of the present day. Charming plants they are, and where natural water is not at command a little tank constructed of cement will enable one in almost any sunny garden to grow one or more of the exquisite new Water Lilies we owe to the genius and skill of M. Latour-Marliac. In a little pool, which is fringed with Marsh Marigolds, Ladies’ Smocks, Sikkim Primroses, Irises, and other plants, so that it looks as if Nature-made, shows in beautiful contrast to the pure white flowers of the little Bog

Arum (*Calla palustris*), the rosy flowers of *N. marliacea rosea*, and on the margin rise the quaint brilliant blooms of the Panther Lily (*L. pardalinum*). From a carpet of *Coronilla*, flourishing by the water side, grows this Canadian Lily, delighting in the moisture, which never fails, though days of drought may come. Overhanging the opposite bank is *Spiræa astilboides*, or, as it may more properly be called, *Astilbe spiræoides*, or *A. astilboides*, with its plumes of white flowers almost mingling with those of *Spiræa purpurea*—a beautiful plant also, with flat corymbs of the pale purple blooms.

In a still smaller pool is *Nymphæa chromatella* with its creamy yellow flowers, enhanced by the deep coloured leaves, from among which it emerges, and margined by white and yellow *Stonecrops*, the leaves of the double *Lady's Smock*, now over for the season, and by branches of the single white *Rosa pyrenaica*, whose flowers will soon be succeeded by the distinct hips now beginning to form where the earlier flowers have been. A small tank about 3 feet across will grow one of these Lilies, a great factor to success being that the water should remain long enough to be warmed by the sun. Where there is no outflow (and this is unnecessary) it will be found in order to keep the water pure that it is needful to allow the growth of the natural green *conserva*, which is disposed to grow in stagnant water. This can be kept from entirely covering the surface of the water by removing that which rises to the top, but that which grows beneath the surface should never be entirely removed, or the water will become offensive. Running water is not liked by the *Nymphæas*, and they never flower so well or look so healthy as when growing in a calm, currentless corner, where the water heats with the warmth of the sun.

An old-fashioned unobtrusive flower is *Nepeta Mussini*. It may be true, as has been said, that it is not quite ornamental enough for the choice border, but this is an expression to be modified by taste and by circumstances. The writer has seen it used with good effect in one of the most picturesque gardens he has ever seen, and there it was not out of place among flowers of the choicest and plants seen but seldom anywhere. True it is a labiate flower—not often a recommendation—but its rather downy leaves and spikes of blue flowers make it, if a quiet, at least a modest and pretty plant. It comes from the Caucasus, and will grow almost anywhere, although on strong rich soil it is liable to become coarse and lose some of its neatness. It grows about a foot high in moderately dry soil.

The *Brodias* are deservedly coming in for more attention. Previously the writer has referred to *B. ixioides*, formerly known as *Calliprora flava*, which is at present very deserving of its name of "Yellow Pretty-face." Several other plants of the same genus are also in bloom, and among these may be selected *B. laxa*, which is of entirely different character and appearance. It grows here nearly a foot high, and has rather long-tubed flowers of a deep purple blue. A native of California, it should have a rather dry and light soil, but is quite hardy in my garden.

These and other flowers present themselves to our gaze as we walk among them. There are *Rock and Sun Roses*, of delicate beauty; there are tall spires of *Delphiniums*, creamy white and yellow *Anthemises*, great hardy *Chrysanthemums*, some with deeply lacinated ray petals; charmingly coloured *English Irises*, with others of the genus; *Stonecrops* and *Houseleeks* with fleshy leaves, and white, yellow, and red flowers; tall spikes of *Sisyrinchium striatum*, and the fantastic but attractive *Phlomis Russeliana* with its whorls of yellow and white flowers. There are gay *Californian Poppies*; blue, white, yellow, and pink *Alliums*; bright *Snapdragons*, floating *Feather Grass*, flaunting *Poppies*, tall *Globe Thistles*, and the distinct and beautiful *Morina longifolia*. There are the tawny yellow flowers of *Hemerocallis fulva*, the clear yellow small blooms of *Euphorbia capitata*, the bright yellow and clear white of day and night blooming *Evening Primroses*. Many more there are, some wearying for rain, others rejoicing in the sunlight and dryness of the present time. Happy do they seem, and happy are we in contemplating their sweet beauties.—S. ARNOTT.

STRAWBERRY VEITCH'S PROLIFIC.

AMONGST the several exhibits of Strawberries at the Royal Horticultural Society's meeting, on the 13th inst., was a variety named *Veitch's Prolific*. Trusses of fruits, plants in bearing, and selected specimens were represented, and the Fruit Committee recommended a first-class certificate. The variety was raised from a cross between *Empress of India* and *Royal Sovereign*, and is extraordinarily free fruiting. The fruits are broad, wedge-shaped, of bright attractive colour, and have the additional advantage of good flavour. From the firmness of the flesh the fruit should prove an excellent traveller, and as it is a good grower it ought to attain great popularity. A typical fruit is depicted in the woodcut, fig. 11.

SPRING-FLOWERING STOCKS.

Stocks of the hardy biennial class are among the freest-flowering, most robust-growing, and deliciously scented of spring flowers. Provided the plants have not been unduly crippled by a spell of changeable wintry weather, they will be in such a hardy stocky condition on the approach of spring that it will only require congenial weather to induce free growth and the production of flower spikes.

Although the double *Brompton Stock* is very popular in its colours of scarlet, white, and purple, either massed in separate colours or in combination, it is also found that *Intermediate Stocks* are similarly useful for spring displays, but being rather less hardy they may not always stand through the winter in a variety of situations. They are, however, excellent for pot culture, or to be wintered in pots and planted out in spring. They simply need the protection of a frame which is well ventilated in favourable weather. *East Lothian Stocks* belong to the intermediate class, and are well adapted for spring flowering. The plants are fairly dwarf, and produce not only a fine central spike, but a number of side shoots, which give a

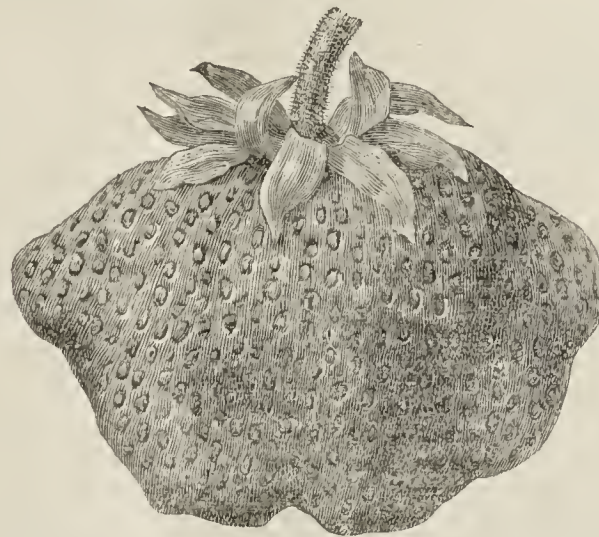


FIG. 11.—STRAWBERRY VEITCH'S PROLIFIC.

succession of capital spikes. The colours are white, scarlet, and purple, any of which or a mixture of all producing an effective display and a good percentage of double flowers.

To associate with a *Giant Brompton* strain in the borders for cutting or to cultivate separately, *Sutton's Improved Queen* is very useful. It grows 18 inches high. A strain adapted for bedding must possess a dwarf habit and free-flowering qualities, as well as variety of colour. *Sutton's Spring Bedding* is found to be eminently suitable for this purpose. A popular variety to cultivate for cutting is the *Single White Cloud*, its fragrant flowers always being acceptable.

The present is a suitable time for sowing a selection of the Stocks mentioned. Seed may be sown outdoors or in a frame, but as the plants are invariably improved by transplanting, the most economical manner of raising is to sow seed in a box or pan, and afterwards transplant. A wide shallow pan or a box should be efficiently drained and filled with a mixture of light porous soil pressed firmly with the hand and made level. Use the material in a moist condition, as it is imperative to give the soil before sowing the seed thereon a gentle watering with a fine-rosed can. If the soil should be dust dry this could not be readily effected, as the water could not pass through. When sufficiently drained sow the seed evenly on the surface, just covering it with fine soil passed through a sieve. A pane of glass may be laid on the top, shading the soil with paper until the seed germinates, when of course air and light must be freely admitted. A cold frame with the light kept close is a suitable place until growth commences.

As soon as practicable prick out the seedlings in pots, boxes, or in a frame, previously preventing them becoming drawn by affording plenty of air in a position not far from the glass. Directly the plants attain size and strength they will be all the better for again transplanting, some into the open air on a suitably sheltered border, others in a frame having a moveable light, which can be drawn off on every favourable occasion. *Intermediate Stocks* for pot culture, the plants being wanted for spring blooming, may be well grown if seed is sown in pots during August, thinning the plants to three in a pot.

Both *Brompton* and *Intermediate Stocks*, if cultivated outdoors from the first, should be sown at the end of July or early in August. Choose an open fertile piece of ground; dig it well over, and bring the surface to a fine tilth by breaking down the lumps with the spade or fork, and finally with the rake. It is best to sow in drills, which affords facilities for readily thinning the seedlings, weeding between the rows, and stirring the soil from time to time. Avoid sowing the seed too thickly, as it necessitates considerable trouble in the earliest

thinning. Should the weather and the soil be very dry it is desirable to water the drills after they are formed. The latter must not be very deep. They can be easily marked out by pressing the back of a rake evenly along about a quarter of an inch deep. Cover the seed with fine soil, and shade the surface with a few evergreen branches, but this is not indispensable except in hot parching weather. When the seed germinates remove everything which shades the seedlings, so as to prevent them becoming drawn, a few hours sufficing to do this. Afford water to encourage growth in dry weather, but give no more than is absolutely necessary. Keep down weeds, and give a preliminary thinning, should the seedlings be crowded, until they are ready for transferring to a bed or border where they are intended to flower.

At this final stage of planting place the young plants 8 or 10 inches apart on well prepared soil not made rich with manure, though of course good fertile soil is required to insure free growth. Lack of manure in soils is not always the cause of infertility. More often ground is impoverished by dry conditions consequent upon its occupancy by voracious roots of trees and shrubs which may have encroached upon it. Undue shade also keeps away moisture. Such soil cannot easily be improved for Stocks, and better results must accrue from planting in an open position, though the ground may be apparently poor.

After planting, one or two waterings may be given as appears requisite. Subsequent treatment consists in lightly stirring the soil between the plants frequently during autumn and winter. Damp is a great enemy to Stocks in winter, but its effects may be lessened by spreading dry soil mixed with a little lime among them.—E. D. S.

HARMFUL AND HARMLESS GARDEN MOTHS—23.

REFERENCE has been made many times in our gardening journals to the fact that a cold, ungenial spring and early summer (such as has been experienced this year over the greater part of the British Islands), often has its ill effects upon vegetation, aggravated by the attacks of insects. This is rather a pessimistic view, and yet it is true that just at the time some of our garden plants seem to be suffering from want of sun, they are victimised by insect foes. But one sees another side to the matter. If certain insects there are, the aphid tribe for example, which do flourish when cold winds prevail—to a multitude of young caterpillars these invariably prove destructive, also they kill off a goodly number of the hibernated individuals; and of the May moths, or butterflies, too, a part die without depositing eggs. Comparing different seasons and their results, I think, as a rule, our gardens get more damage from insects during a dry year than in a moist one. This summer many familiar caterpillars are only represented by stragglers, and while strolling along the walks at twilight we do not observe the moths we expect to see on a July evening.

One of the species, however, which has been making itself conspicuous recently in some places, is the small ermine (*Hyponomeuta padella*). Colonies of its caterpillars have stripped Hawthorn hedges and Apple trees; and now those that escaped various enemies have entered the chrysalis state. Since they are then quite discernible amongst the branches on which the caterpillars have fed, they should be removed and burnt. During this month the moths may be expected to show themselves about gardens or orchards. They are small satiny creatures, the narrow and white upper wings being sprinkled with black dots. Other species very similar of the same genus occasionally appear at the same time on the wing; two of these feed as caterpillars, one upon *Prunus padus*, the other on a species of *Euonymus*, but do little harm.

The eggs are laid in clusters and covered by the parent moth with a gummy substance, which gradually becomes brown, though at first pale, and so much the colour of the twigs that the small patches are seldom noticed. It is doubtful whether these eggs can be removed either by washing or fumigation during the autumn, but the deposition of the eggs may be prevented by shaking the moths off the trees, and they usually emerge in companies, like the caterpillars. These do not begin to feed till the spring, but most seasons they hatch in autumn, remaining under their gummy shield till the buds are swelling, when they commence operations by burying their slender bodies in those nearest to them. Soon the expansion of the foliage around brings them out, and they spin a web which shelters each colony for awhile. By-and-by, if not meddled with, the colonies seem to unite and construct bridges or ladders upon which the caterpillars travel in all directions over the twigs and branches. The injury does not arise only from the effects of the caterpillars' jaws, growth is checked by the webs and secretions of the insect.

Most of the larger garden moths have been described in our series, but there yet remains a host of smaller species, which it is not possible to enumerate, and a few only of these can be very briefly mentioned as samples of their tribe. Every gardener has seen the Tortrix moths, sometimes called the bell moths, from the shape of their wings, insects now and then observable in the act of flying, but more often

noticed in repose upon a leaf or some wall. Still better known are the caterpillars, taking their Latin name from the habit of contorting or twisting leaves, so that many of them seriously disfigure and weaken their food plants. Various are the methods they pursue, but however the leaf may be folded or curled, it is always kept in position by cords of silk.

It is surprising that caterpillars of the size of some small species can manage to bend over the leaves they make their abodes; evidently they possess a good amount of muscular force. Usually the retreat of a Tortrix caterpillar is more or less like a tube, open at each end, so that in the event of an enemy appearing at one the caterpillar drops from the other, hanging from a silken cord. By this contrivance many of them escape the insect-eating birds that hunt up caterpillars; but some of these, wiser in their generation than their brethren, have the trick of shaking any leaf which contains a caterpillar, and when it descends the bird carries it off. Ichneumon foes of tiny proportions help to reduce the number of such garden annoyances, puncturing them dexterously, so that they never emerge as moths, or even become chrysalids.

The Rose, as its admirers know to their regret, is an especial favourite with the Tortrix caterpillars, half a dozen species at least making it their regular or occasional food. May and June exhibit to us that of the Bergmannian (*Cræsia Bergmanniana*), a lively little creature with a black head, sometimes plentiful enough to damage the shoots seriously, if it has not been looked after on its first appearance. We see the moth about during the summer or early autumn. The wings only expand half an inch, but it is very handsome, the fore wings being golden yellow crossed by brown bands; all their surface is sprinkled with silvery scales, the under pair are of a deep brown. A companion of its flight is the variable *Peronea variegana*, abundant in gardens; the white or grey wings have blotches of brown and black. Its very active pale green caterpillar has been taken on the Rose, also on Hawthorn, and many shrubs about gardens in June. Earlier in its doings is the brown black-headed caterpillar of *Spilonota roborana*, which infests and contorts Rose shoots during the spring. The moth has received the popular name of "brown cloak," from a patch upon the creamy white fore wings, which are rather narrow.

Also early is the fat sluggish caterpillar of *Lozotaenia rosana*, which, by its rolling operations, damages the tender leaves; it is dark green, slightly spotted with white. The moth appears about midsummer, but though named after the Rose, the caterpillar of the species is a promiscuous feeder. Just now we notice that amongst the Privet hedges flits the little reddish-brown *L. unifasciana*, in which the caterpillar fed in the spring.

From the frequent occurrence of the species on fruit trees, we are sure to come upon the codling moth in our gardens, an unpleasant reminder of the mischief chargeable upon the caterpillar, which brings to earth many thousands of Apples in an unripe state. It is a pretty moth, this *Carpocapsa pomonella*, grey, with delicate lines of black, and a red blotch, which in certain lights has a golden hue. During June, or soon after, the female deposits one egg in the eye of each Apple visited. The caterpillar, which is white or pinkish, with a brown head, after a time pierces a hole to the rind, from which it can eject the pellets of dirt, and then turns back towards the centre, attacking the core. As a result, the fruit falls, when the caterpillar, emerging therefrom, spins a cocoon in some nook, remaining a chrysalis through the winter. Very often these are under loose bark on trees, where they may be found and removed. Allied to this is the dull-coloured *C. funebrana*. The caterpillar, which is red, but having a black head, makes its home in Plums. Then the profusely common pea-green moth (*Tortrix viridana*), so hostile to Oaks, is apt to show itself in gardens if this tree is growing near. Some seasons the caterpillar nearly clears all the leaves in June where it occurs; being green like the moth, but paler; fortunately, in both stages, its conspicuousness makes it a victim to many foes.

We not unfrequently see, on the wing, some of the elegant pearl moths, which Mr. Stephens, the great entomologist, wished to call by the Latin equivalent of Marguerite, but the older one of *Botys* has not been changed. The mother of pearl, *B. urticae*, flies during July, the wings have a purplish metallic gloss in some lights, and when closed look like a film of pearl studded with dark spots. Nettles supply food to the caterpillar, which is green, glossy, and transparent. In the same month the small magpie is frequently seen in gardens. This pearl moth is black-and-white, very conspicuous, though smallish. The caterpillar also lives upon Nettles during the autumn.—ENTOMOLOGIST.

WATERING CAULIFLOWERS.—In light shallow soils a dry period proves most trying to these, and practically checks their growth, which is not desirable, as it may cause premature formation of the heads. In order to avert this afford plentiful supplies of water, and mulch the plants with manure. Liquid manure may also be given with beneficial results.—E.

SCALDED GRAPES.

SCALDING generally occurs when the berries have finished stoning and whilst green, but it sometimes takes place when the berries are young, tender, and growing fast, and, when slight, has been termed "spot," a whitish mark appearing on the side of the berry as if it had been bruised in some way. The pulp beneath dries up and contraction occurs, the berry soon assuming a one-sided irregular form. In some cases this whitish mark appears over the whole of the berry and even of a bunch, and over a Vine or house. Such berries usually shrivel or may drop off the bunches. This "spot" is simply "scalding" at an early stage, and has no connection with spot as caused by the fungus *Gleosporium laticolor*, though this pest and "spot," alias scald, commonly assails Lady Downe's and Muscats more than any other Grapes.

Scalding appears to have been unusually prevalent this season, the numerous specimens of Grapes so affected having been submitted to the Editor, who considers the portrayal of a characteristic example may be useful.

As stated on page 77 scalding generally occurs when the berries are from half to three parts grown. Sometimes only a few berries here and there are affected, but not unfrequently the entire side of a bunch (fig. 12, *A* at *a*) may be ruined, while the other side remains perfect, and in not a few cases nearly the entire crop has been spoiled through the scalding. When a berry is only affected in part (*B*) a whitish mark appears, then the pulp beneath dries up and a contraction occurs, the part appearing sunken (*b*). If the whole skin of the berry is affected it appears whitish all over, and such berry usually shrivels up (*C*).

In the case of a berry being scalded on one side it may remain and even ripen, but it will have a shrunken patch as shown at *c* in the figure *D*, while the seeds remain intact (*d*). A similar clean berry is shown at *E*, the berry in both cases having completed stoning. After this the berry swells considerably whether scalded or not, but this does so very indifferently, as indicated by the outline in *D*, whilst the other swells evenly, and has a perfect well finished appearance (*F*).

The scalding "is caused through late or imperfect ventilation on some bright sunny morn, whilst the internal atmosphere, and even the berries, are saturated with moisture"—(*Barron*). It would be superfluous to refer to prevention, the subject being so fully referred to on page 19, but the illustrations may be useful to those unacquainted with the evil of scalding in Grape culture.—G. ABBEY.

[It is not common to see a bunch affected so completely on one side as the one depicted, the other side remaining sound, though the case is by no means a solitary one. We have seen too many "scalded" berries on the shaded side of bunches, and traced the cause of the calamity, mainly, to low night temperatures accompanied by an excess of moisture, and too late and too liberal (at once) morning ventilation.]

CALLS IN THE NORTH.

FEW things are, perhaps, more disappointing than the feeling that you are in the vicinity of friends on whom you would like to call but cannot, through the inexorable claims of duty elsewhere. Thus it was with the writer when he found himself in the great city on the Tyne on the 13th inst., and had to rush southwards the next day. But first he was induced to take a sniff of ozone from the German Ocean, and this was accomplished, though it involved a night in a cemetery. It may be thought this is not the most cheerful of places for spending a holiday of fifteen or sixteen hours. Apart from the fact that this particular haven of rest might easily be mistaken for a park or a garden, when two-thirds of those hours are spent in sweet sleep, any rising feelings of pity for the jaded journalist may be complacently suppressed. The desire for the ozone was brought about in this way.

DISTURBED AT DINNER.

The author of the article on Mr. D'Ombain's garden, on page 42 last week, and which would be perused with pleasure by many readers, seems to have been impressed by the sententious remark of some autocratic editor. Perhaps the said editor had at some time or other taken the liberty to cut down or otherwise "spoil" one or more of his contributions, over which he had struggled—let it be said laudably, for effect. The editor would naturally be an "autocrat" then; though perhaps, if the truth were known, all he had done was the removal of a few weeds, which the awed writer had mistaken for flowers of literature. However that may be, he seems to have profited by contact with his mentor, and striven to find a "good heading" for his articles. This seems to have led to the discovery of an obvious fact, that the "subject is its own heading." Of course it is, if you are

content to take things as they are. If you are really disturbed at dinner, why not say so? It is something you are not likely to forget, if it was a good dinner. It is the predominating idea in your head, and therefore no one can say it is not a natural heading.

CAPTURED.

It was at the reception dinner given to the representatives of the Royal Horticultural Society in the palatial Station Hotel at Newcastle that a card was handed in bearing the inscription, "Mr. Bernard Cowan, F.R.H.S.," requesting an interview. If Mr. Cowan does not hail from the Emerald Isle, he is endowed with the insinuating eloquence of its people, which winds itself about you till you are a captive. He was formerly gardener to Sir Henry Calverley, but has by his ability and character won for himself a position which many gardeners might envy, in his breezy and beautiful home. "Sorry to

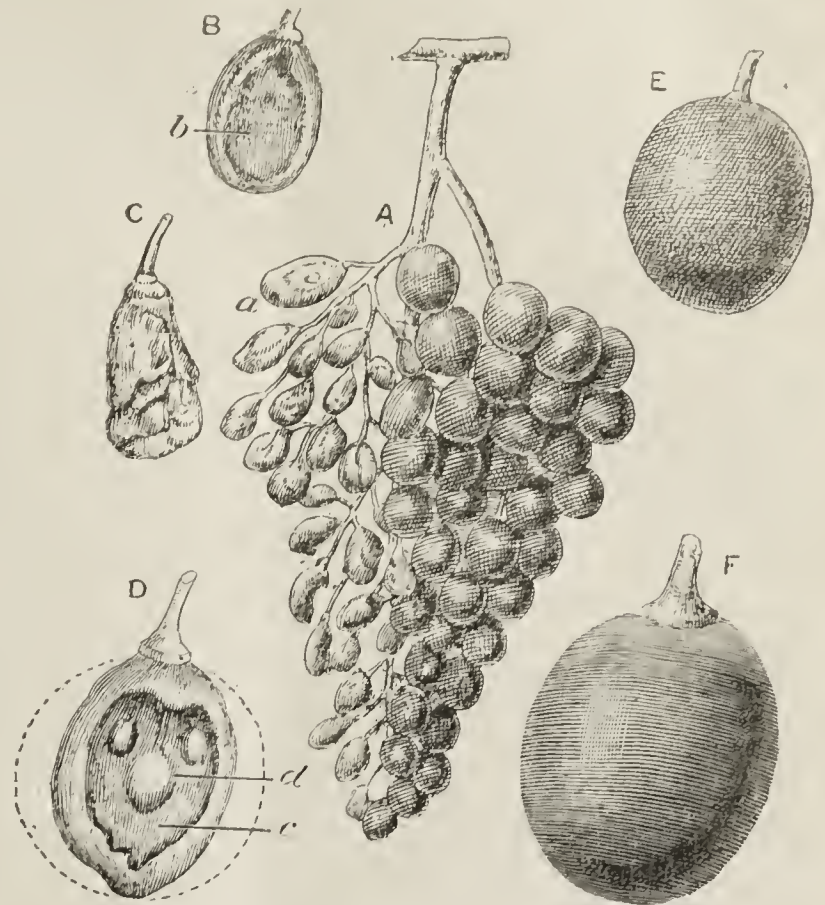


FIG. 12.—GRAPES—SCALDED *VERSUS* NORMAL.

References.—*A*, bunch of Lady Downe's Grapes (much reduced); *a*, scalded side. *B*, berry scalded in part; *b*, shrunken portion. *C*, shrivelled berry the result of being scalded all over. *D*, partly scalded berry; *c*, shrunken patch; *d*, seeds. *E*, sound berry at time of scalding. *F*, perfectly finished berry. (*B* to *F* natural size.)

disturb you," was his greeting, "but thought I really must call and ask you to run down after the show is over, and spend a night by the sea; a most beautiful coast it is, the air so pure, it will do you good. I see you need rest. You look weary and worn by overwork—pallid and thin. You really must have some ozone—the best in the world," and so on. He evidently knew the weak point in the journalist's economy, and touched the potent spring of "overwork." All the fraternity like others to think of them as overworked martyrs, denying themselves repose, and struggling incessantly for the weal of the nation and the good of their fellow men. It was useless pleading lack of time for a visit to the sea. "Having to go South the next day" was met with a bland "Yes, I know, and a run down will brace you for the journey. A carriage will meet us at 8 P.M. for a coast drive, and will take you to the station in the morning in time for the London express; all is arranged, and I must not go home without you, or Mrs. Cowan will be so disappointed." What can even a robust toiler with the pen do under such pleading? He can simply do nothing but succumb, and the end of it was we started for the cemetery.

SOUTH SHIELDS.

Gliding along westward on the south bank of the Tyne, which runs along in a deep gorge on the left, we see on the rising ground on the opposite side how surprisingly the city of Newcastle has grown during the past few years, spreading over hill and valley as far as the eye can reach. The railway route is not picturesque, except to the man of coal and iron, whose ideals of beauty are lofty chimneys, smoke, steam, and cradled ships in all stages of growth in preparation for their destiny. The smoke becomes thinner as we go, and arriving at the terminus we are in clear air and an almost treeless plain reaching to the sea. The wind blows cool and fresh and sweet. No wonder so many busy men emerge from the smoke and make this great marine

plateau the site of substantial healthy homes. Mr. Cowan is proud of South Shields, of its rapid growth, its increasing wealth, and the enterprise of its public men, who are ever striving to make it a happy place to live—and die in. He is the superintendent of two cemeteries, telephonically connected, and tells you when the first was formed, which he made into an attractive garden, the inhabitants totalled 35,000, and after 37,000 interments it was thought the time had come for another and much more extensive enclosure. This he designed and planted on a windswept plain. Looking down its wide, long avenues closely belted with trees and margined with flowers, it is suggestive of a park of pleasure. To see the tombs you must go behind these dense sheltering screens, where they are found in large sequestered squares, suggestive of quietude and repose, where all is neatly kept and cared for as it ought to be.

TREES FOR BLEAK POSITIONS.

It may be worth noting what is found to grow the best under the essentially unfavourable conditions, especially the driving winds, against which few trees and shrubs can force their way upwards, and where most flowers, but for the shelter afforded, would be blown to tatters in a very short time. Some weeks ago Mr. Luckhurst drew attention to the enormous value of shelter for fruit trees in positions naturally exposed to sweeping gales. It is of advantage to everything that seeks to grow upwards instead of nestling on and creeping along the ground. For his purpose he recommended the Myrobalan Plum. On the bleak north-eastern coast there are just four trees that excel all others for the purpose for which they are employed. These are the common White or Huntingdon Willow (*Salix alba*), the Wild Service Tree (*Pyrus torminalis*), the Ontario Poplar (*Populus balsamifera* *candicans* syn. *macrophylla*), and different forms of Elders. The Canadian Poplar is one of the most free-growing of trees, but is having a hard struggle to form an avenue, and scarcely looks like itself. The four kinds named are planted in thousands closely, forming in the mass dense walls of foliage. Isolated on lawns thus sheltered, the Kilmarnock Willow (*Salix caprea pendula*) forms handsome drooping heads. The shrub of shrubs for free growth and effect, affording brightness amidst the surrounding greenery, is the Golden Elder. Before flowers could be grown, thousands of plants of it were raised from cuttings, and in a small state grown in lines and masses for imparting colour in lieu of flowers. It is grown in thousands still in various sizes—as isolated specimens on grass as under growth, cut down annually and in masses with other trees in the belts, casting a golden glow over what would otherwise be, in places, a sombre scene. Mr. Cowan would like to know to whom the honour belongs of raising the Golden Elder, and hopes he received, as he deserved, a gold medal for giving light and life to dull places where scarcely anything else would grow so well, on breezy hills and in smoky towns.

FLOWERS IN "GOD'S ACRE."

Where a few years ago none would grow in this now attractive resting place at Harton, practically all hardy kinds now flourish, and hosts of them as if in their native habitats. Tender "bedding plants," such as "Geraniums" and *Calceolarias*, are wisely left alone. Of hardy kinds practically all are grown—*Violas* in separate beds; alpinas in large colonies interspersed with rocks, the Edelweiss not being forgotten; border flowers in bold groups and long stretches, as, for instance, ten thousand brilliant heads of the Oriental Poppy glistening in the sun in one long broad line, and so with other kinds, of which enumeration is impossible. A word, however, may be said on Stocks in summer and Wallflowers in spring. Stretching away from the entrance and tempting passers-by, such a long broad mass of white and crimson Queen Stocks is seldom seen and felt, for their fragrance is wafted beyond the enclosure. "How and when are they raised?" was the natural inquiry. "Oh, it's all very simple. The head of my garden staff—and a very good man too, as is the one at the old cemetery—is very uncomfortable if he cannot sow his Stock seed on the 21st of May, thinly in drills in the open, as if sowing Carrots, subsequently transplanting, and finally establishing the sturdy plants in their final positions in September to get well hold of the strong ground before winter. Their leaves just touch when planted, as we must have a mass, for if thinly arranged the wind cuts them in pieces. It is the same with Wallflowers as to date of sowing and treatment. It is rare that we lose any in the winter, and when 17,000 are flowering, numbers of visitors come to inhale their fragrance and enjoy their beauty." It is surprising if it were not so in a district of over 100,000 inhabitants, their number having doubled in about twenty years.

CHUNKS

This is a change, and pertains to the soil. All has to be prepared in a thorough manner, large squares of waste being treated yearly, sown down, and belts planted where required. This work is always going on, and it would have been a treat if Messrs. Thomson, Pea, and Dunn had been there to discuss the matter on the spot. Bastard trenching is the process. A strip is lined off, and men with long, bright, narrow, tapering spades cut out this terribly resistant clay in

chunks, as sharply outlined as bricks, but longer, and deftly pile them into ridges. The bottom of the trench is broken up and left, a thick layer of town ashes being spread in. On this layer of ashes the chunks from the next trench rest, and a quantity of ashes east over them, a good deal falling in the spaces between. It is easy to perceive that the ashes facilitate the passing down of the water (rain) from the chunks and into the subsoil. It is no light work to bring out the clay in cubes. It is not soft, like butter or anything of that kind; not wet and sticky, in the sense that some clays are. Perhaps the under layer of chalk, 5 or 6 feet below, prevents that. It is bluish, moist, and extraordinarily compressed clay. Watch the man of muscle take out a cube. He has his strong foot-iron on, or it would beat him. He marks his slice by sharp downmark strokes of the spade with the hand, then down goes the foot with a jump and a clatter; five more savage stamps were counted before he got a leverage, then a grin and a wriggle, followed by five more lighter and lighter foot stamps, with a couple of wriggles between them; next, knitting his sinews for a lift, out came the cube, of probably a dozen pounds, accompanied by a smile, as if of thankfulness or triumph. When it takes five heavy jumps, five light stamps, ten jerky wriggles, and one big lift, as it did, to get out a cube, this will perhaps be taken as evidence that the clay justified its character of being strong. So we pass on.

PULVERISATION.

If you want to extract what another man knows, it is a mistake to be afraid of revealing your own ignorance. A young man might, perhaps advisably, be a little chary in this, or at least choose the moment and the man judiciously for a tacit confession of incapacity or lack of comprehension; but a man whose professional future is a matter of no importance to him need have no such hesitation. Such a man could very innocently, and regardless of consequences, ask Mr. Cowan why, at so much labour, he had this stubborn land roughed up. He might anticipate the reply—"Roughed up! why, to pulverise it, of course, and make it cultivable; for this it must be subjected to the action of frost, to shatter it and make it fall." Then you might cite authority to show that the frost penetrates a dense body of soil more deeply than it does a broken-up medium, and the expansion of the water consequent on its conversion into ice splits the mass into innumerable fragments—so many and so small as to be invisible to the naked eye; that you have only to wait till spring and it will turn up as "nice as ninepence," or in beautifully friable condition for sowing and planting. Suppose you try to impress that doctrine on Mr. Cowan, which implies how wrong his laborious practice is, and he turns round and observes, "If what you say is true, how is it that this land, which must have been frozen through and through for a thousand years, always turns up like semi-solidified liver, whether you trench it in summer, autumn, winter, or spring? It is always bad alike, and nothing will make it crumble but exposure through the winter; then by acting at the right time in spring you can smash it down, turn it over once more, bring up the base of ashes and blend them through it, sow and plant, and have sward, flowers and trees, just as you see them, as the result of the process, and which could never have been there in its absence, as the wild waste portion shows you clearly enough." Suppose, I say, you had an argument like that to meet on the spot, how would you feel, and what would you say? You might, if you liked, *feel* you had been taken down a few steps, but that would not matter after the extraction; and about the best thing you could *say* would be, "Thank you, Mr. Cowan, for the valuable object lesson on land amelioration, by which so much good has been effected, and if ever I have land like this to deal with I will bear your successful practice in mind." That would be a well-deserved compliment to him, and he would be pleased in being helpful to you as a seeker for information. And now, Mr. D. T., think again, and do not frown, even if Messrs. P. and D. should smirk and smile.

A REST AND A TALK.

Mr. Cowan has need to be grateful to the public authorities (as he is) whom he serves with whole-hearted devotion. They have built him a home of which he may well be proud, and on his marriage made him a present in the form of a service in silver such as few public servants in his capacity can have received. Equally is he respected by those under him, as their testimonials show. To the question, "Do you like cemetery work as well as private gardening?" the reply was prompt. "Better, much better, because—it is better, here at least, in every way. Numbers of young gardeners perceive this, and I have several employed, with many applications. They even offer to dig graves if I can take them; but for this I have a separate staff, though they would have to help in an emergency." But how do you manage the men in both places, have everything in such good order, and all work done up to time? "Nothing more easy. The secret rests in having good and loyal heads of departments and making them responsible for carrying out the work. If you want to make a man thoughtful, careful, and take real interest in his duties—in fact, get the most out of him, invest him with responsibility. With my

distant gardener I arrange matters by telephone, and pay occasional visits. The heads of the gardening and grave departments here attend in my office every morning, and arrangements are made for the day. It is their duty to carry them out. I never step between a foreman and his men, as that would weaken his authority, and I should risk the respect of both. I never by any chance give an order to a man nor interfere with him or rebuke him at his work. All is done through the foremen, and under this simple and proper discipline everything moves with the utmost smoothness, every man gives his best services, and mutual respect prevails all round. The old grave-man, who is responsible for about, or above, 30,000 interments, is sometimes downcast when orders are slack. In his trouble he has sought for reasons, and has been known to cruelly suggest 'the doctors must be on holiday;' but when business is brisk none is more happy than he. We all try to do our duty reverently and zealously in making our park and garden cemetery as beautiful, reposeful, and enjoyable as we can, and are rewarded by the appreciation of the public." The end of the narrative must come, and other "calls" deferred: is, in fact, near, for the pen needs rest. When Mr. Cowan follows its trail he will say, "I told you so, that a run to the coast would brace you up;" and perhaps he will not quite believe in the appropriateness of the *nom de plume*—A JADED JOURNALIST.

SPARTIUM JUNCEUM.

THIS—Rush or Spanish—Broom is a hardy deciduous shrub, and just now (July 18th) has a singularly fine effect in shrubberies, as there are few others in flower. The large, showy, yellow fragrant flowers, disposed in terminal racemes are very ornamental, even at a considerable distance. It grows splendidly on the calcareous gravelly loams overlying chalk in Hertfordshire, at elevations higher above sea level than the dome of St. Paul's Cathedral, and bushes 10 to 12 feet high, and as much through, are a sight to remember.

The plant, however, is not over-hardy even there in rich soils, but in the St. Albans Clarence Recreation Grounds there are several bushes not more than a few feet high, which bloom grandly by August Bank Holiday, simply through the Superintendent, Mr. J. Eastwood, cutting the plants down every year in the first instance to 18 inches or 2 feet from the ground, always to well ripened wood, and then spurring them in to a few buds of the last year's growth in the spring before commencing to grow. In this way the parts damaged by severe weather are got rid of, straggling growth and dead parts avoided, while fresh green shoots and foliage with rich yellow flowers are secured on bushy, handsome plants. The practice also secures a succession of bloom to those not cut back, as the plants flower somewhat later, and keep up a good display into September.

The Spanish Broom does well in smoky towns on this system of management, being very tractable. It also thrives by the seaside, and is there better for the spurring-in before mentioned, no plant but double Gorse rivalling it for golden sheen. They, however, flower at different times, and the double variety of Spanish Broom vies with double Furze. It is a native of the Mediterranean region, and Canary Isles.—ST. ALBANS.

THE LACKEY MOTH.

THIS creature has a wonderful instinct in selecting trees for egg deposition. I noticed it for several years as peculiar to Sloe, then Hawthorn, and occasionally Birch. Crab and wild Pear sometimes received a generous share of attention, and at times Elm and Oak. I have not found it on the Cherry, or only when Apple and Pear have failed to be there.

Some half dozen years ago about thirty acres of pleasure grounds were laid out and planted with many hundreds of species of trees and shrubs, and I was anxious to learn which of these, if any, would be selected by the lackey moth as food for its offspring. The situation was both bleak and sheltered, part one and part the other. I knew partly why the lackey moth chose the Sloe and Hawthorn—namely, for shelter—and expected to find it select those in the warm part of the grounds. There were standards, and the usual filling-in of evergreen and deciduous shrubs.

At the onset the moth selected the common Laurel, and to this the creature stuck for several seasons. This year, however, the field has been considerably extended, but the Laurels have not been neglected. In the grounds are several ornamental Crabs and Pears, and these have been laid under contribution to a serious extent, and also the Almond, with, to some extent, the double Prunus and common Birch. In the exposed part of the ground there has been very little attack by the pest, so the creature manifestly prefers warmth.

What I noticed was that the cuckoo came around and cleared out the web nests in some cases, and left others severely alone, also that domestic fowls will not look at them, either shaken down or placed in their pens. So much for reliance on birds and hens. The best plan is to take the nest boldly in the hand and give it a hearty squeeze.

But what I am writing for is to ask those having fruit trees in the South and South Midlands (I have not found this moth north of the Trent) to look now very closely beneath the bars of railings, under roofs of sheds, or

even in the angles formed by wall copings or eaves, and if they find a silken cocoon, sulphur coloured or whitish, with hairs in for tenacity, just press this hard enough to destroy or burst the brown chrysalis, or properly pupa within it. Lose no time, for the moths will assuredly come out in due course, and in the late summer or autumn deposit the ringlets of eggs on the food plants of their offspring.—PRACTITIONER.

CARNATIONS AT CHELSEA.

THE beds at the Fulham Road end of the Royal Exotic Nursery, Chelsea, are now gay with a collection of Carnations, which are flowering splendidly—better, indeed, than we remember to have seen them for some few years. The plants have made strong growth, some especially being noteworthy in this respect, and almost the whole of them are producing finely formed flowers. The situation of the beds is open to the full force of the sun, and no protection of any kind is afforded. This is regrettable, as the colour is very quickly taken out of some flowers, and their beauty destroyed. It is, however, advantageous in another way, for it tells the visitor at a glance which will withstand the rays of the sun and which will not. The beds are surfaced over with cocoa-nut fibre refuse, and will be for the next week or ten days, according to the weather, worth a visit from all lovers of these charming flowers, that flourish so well in town or country.

Not only do the flowers appear to be superior to those of previous years, but the "grass" that is being produced is undoubtedly better. This augurs well for the layers that are about to be taken, for splendid plants ought to result from them. The practice adopted by Messrs. J. Veitch & Sons of having plants of similar varieties to those in the beds growing in pots in a long span-roofed house near by is an excellent one, for it permits the visitor who goes on a wet day to enjoy the beauty of the flowers as well as the one who goes on a fine day. The writer chose the latter, and examined the plants and flowers, both in and out of doors, under the guidance of Mr. Weeks, whose skill as a Carnation and Chrysanthemum grower has long since gone abroad to all the world.

Let it not be thought that the whole of the varieties represented at Chelsea are about to be noted here, for such is not to be. Only a few of the many can be referred to, and they will include the best, or, at any rate, such as were considered by the writer as being in the front rank. Some will be quite new, while others will be old and well known to cultivators. Two grand scarlets are Joe Willet and Hayes' Scarlet, both producing shapely substantial flowers freely, as does the pure white Mrs. Frank Watts, which is grand for bedding. The bluish-purple of Bendigo commands attention, as does the very dark crimson of Mephisto, both of which are beautiful Carnations. For floriferousness the old favourite Alice Ayres is still amongst the best; Exile, with bright rose-hued flowers, being also excellent in this respect. Very chaste are the flowers of Her Grace, which when first open are pale blush, turning to pure white with age. As a scarlet Little John will claim high favour, for the flower is smooth in petal, of great substance.

Mrs. C. R. Barclay with intense salmon rose coloured flowers will please many visitors, as will the cinnamon brown Mrs. Colby Sharpin. Each of these possesses other desirable attributes, besides handsomeness of colour. Queen of Yellows tells its own colour, but cannot speak of its excellent form and substance. Two fine whites are Sir Wilfrid Laurier and George Mackay, and a couple of splendid crimsons are Sir Faudel Phillips and King Arthur. From the name many persons would suppose Sweet Briar to be deliciously fragrant, but it has no scent. It is a finely formed flower of bright scarlet colour. One of the best is Mrs. James Douglas, which is rich carmine in hue. Pandeli Ralli, Mrs. Audrey Campbell, Mrs. Patrick Campbell, and Duke of Orleans form a quartet of splendid yellows; while Silver Strand (pure) and Seagull (blush white) should not be forgotten. These are all varieties of merit that are worthy of inclusion in any collection, as are many others that might be enumerated; but with the addition of a few yellow grounds we must cease.

The many varieties usually placed under the heading of yellow ground Picotees are very beautiful, some being particularly effective. Golden Eagle for example stands out conspicuously, as do Eldorado and The Gift, but the majority were not yet fully expanded when this visit was paid. The collection of Malmaison Carnations, which includes all the best varieties, is also worthy of attention, and should be seen by all visitors to the famous Chelsea nursery during the next few weeks.—WANDERER.

SPIRÆA ARIZEFOLIA.—There are few, if any, prettier shrubs than this when in flower, and as its season is after the majority of spring shrubs are past, it lends a brightness to the shrubbery borders when most needed. Its habit of growth and flowering makes it an object of great interest, and this is heightened by the freedom with which its creamy white, drooping panicles are produced. It is a shrub that every garden should possess, if only a solitary specimen, and those who do not claim it certainly lose an object of beauty. It is invaluable for associating with other flowers in a cut state, or alone it can be used with telling effect in tall vases. It makes a low spreading bush, and delights in a deep and moist soil, judging from its growth in different positions here. I do not find it so effective in a young plant as in an older specimen, the latter having a greater amount of lateral growth, which flowering from every point gives a dense mass of delicate and graceful blossom. Those who do not possess it ought to make a note of it for autumn planting.—ROOD ASHTON.



WEATHER IN LONDON.—The rain that fell heavily at intervals on Friday last was most welcome, and though it was not sufficient to penetrate far into the ground, it served a good purpose in invigorating both plants and people for the time. The weather has been very hot, but the sun has not been so powerful as was the case during the previous week. On Monday it was dull, but the heat was oppressive, while on Tuesday it was again dull, indeed during the morning it was so dark as to necessitate the lighting of the gas in the Drill Hall. On Wednesday it was brighter and very warm.

— **THE POTATO DISEASE.**—Once more the dreaded fungus is present in many gardens in the southern counties. So far as I know it has not yet affected the tubers, but with leaves badly attacked we know what is the next thing to expect. In one garden I noticed the tops so badly diseased that it appeared to have been affected by a severe frost, yet in the gardens round there was no apparent trace of it. Fears are entertained that should a period of wet follow the present drought, many will have reason to deplore the ravages of the blight.—G.

— **BURBANK'S TOMATO.**—I saw recently in one of Mr. James Douglas' houses at Edenside, Bookham, a number of plants of a new Tomato which came from America. These were in pots, were erect, 2 feet in height, and fruiting most profusely. The fruits are produced in Currant-like clusters, but when ripe are about the size of small Grapes, red, and very pleasant eating. Perhaps they do not materially differ in appearance from the well known Grape Tomato; but the plants do in a remarkable way. Once this variety is well known, I should not be surprised to see it largely used for decorative purposes. The dwarf compact habit renders it specially worthy of attention for cross-fertilisation.—A. D.

— **POTATOES AND JULY FROSTS.**—I have sent you some Potato tops that were cut down by frost on Wednesday morning, 20th July. In the gardens at Raby the thermometer went down to 32°, and in the village about one mile away, which lies a little lower, the Potatoes were frosted black for yards. I thought it would be interesting to you and the readers of the *Journal of Horticulture*, as I have never heard of frost so late as 20th July before.—J. TULLETT, *Raby Castle, Darlington*. [The specimens sent were quite black, and the occurrence is remarkable, but we have heard of frosts quite as late and as disastrous before, though fortunately they are not frequent. In last Saturday's issue of the "Yorkshire Herald" we observe that "Mr. J. Eland, Sand Hutton, had 9 acres of Potatoes on Upper Helnaby Moor destroyed by frost on Thursday night, July 21st."]

— **TROUBLE AMONG THE GREENS.**—Not long ago the Cabbage butterfly was flitting about the garden, and to the uninitiated there was little in that to cause worry. Now the results are apparent, and growers will do well to keep a constant look-out among the Winter Greens, particularly if they are yet small, and pick off the caterpillars that may be found riddling the tender foliage. To get plants out early is a good maxim where practicable, and Greens that were transplanted before the drought set in are growing strongly, and are less liable to be attacked. It is surprising the rapidity with which caterpillars will shear the foliage, leaving nothing but bare stems, which ruins the plant or seriously checks its growth. The simplest way of getting rid of the pest is probably the oldest—viz., that of looking over the plants continually, and picking off the marauders.—H.

— **SURBITON ALLOTMENT HOLDERS' SHOW.**—At this very excellent local show, held on the 20th inst., a competition for a sash and good money prizes, offered to the allotment holders of Surrey and Middlesex for collections of ten dishes of vegetables by Messrs. Cannell and Sons, was for the fourth time competed for. The two first years the competition took place at Richmond, last year at Hook, where there were several collections, and this year at the show of the winners, the Surbiton allotment holders. Only two collections however entered, that from Hook beating the Surbiton collection easily. Consequently the competition, if continued, will take place at Hook next year. Mr. G. M. Walker, the esteemed Secretary to the Surbiton Association, has intimated his intention to offer a handsome challenge shield for annual competition by the cottage garden societies of the county of Surrey, which he hopes the County Council will accept and provide regulations.

— **MULCHING WITH SHORT GRASS.**—The short lawn mowings, which are usually free from seeds of grass, are very useful as a mulch for Carrots, Turnips, Beet, Beans, Winter Greens, Dahlias, and young fruit bushes.—S.

— **FLORILEGIUM HAARLEMENSE.**—Number 7 of this splendid publication has just come to hand, and happily shows no signs of inferiority. The three plates embodied and the letterpress are admirably printed. The subjects chosen for representation are Hyacinth Grandeur à Merveille; Tulips, Salvator Rosa, Murillo, and Rose Blanche; and *Lilium speciosum rubrum*.

— **NATIONAL CACTUS SOCIETY.**—The exhibition of this Society, which was held at the Drill Hall on the 26th inst., may, we think, be described as a record one for size. There were nineteen plants only staged by four exhibitors, or an average of four and three-quarter plants from each. How many classes were scheduled we cannot say, as the authorities did not send us any particulars. From this show, however, it cannot be said that the Society was a very necessary one.

— **THE NATIONAL CHRYSANTHEMUM SOCIETY.**—On Monday last the members of this Society had a most enjoyable outing, a party of about 160 starting from London at 10.20 in the morning and returning about 11.30. The arrangements were in the hands of the Great Eastern Railway Company, and were admirably carried out. The trip by steamer from Harwich along the picturesque river Irwell to Ipswich and back was enjoyed immensely. Through the foolhardiness of a boatman an accident was very near to happening which would have marred the pleasure of the participants in the trip for many a day. However, it was averted, and the outing must be deemed a great success.

— **WOLVERHAMPTON HORTICULTURAL CLUB.**—The members of this Club had their annual outing on Monday, July 18th, when, with a few friends, they responded to an invitation from Messrs. Sutton & Sons, and paid a visit to Reading. On arrival they were met at the station by Mr. Martin and other officials of Messrs. Sutton, and conducted to their offices and seed warehouses, where they were received and heartily welcomed by Mr. Sutton, afterwards being shown over the extensive premises, the use of each room being explained. The glass department and the seed trial grounds were visited, after which lunch was partaken of under the chairmanship of Mr. A. W. Sutton.—S. C. W.

— **EAST COWES.**—The fortnightly meeting of the East Cowes Horticultural Society was held on July 20th. Mr. G. Groves, J.P., C.C., Chairman of the Society, presided over a good attendance. After a few remarks he called upon Mr. S. Heaton to give the last of a series of lectures, the subject being "The Cultivation of Tuberous-rooted, Fibrous-rooted, and Rex Begonias." The details were lucidly described by the lecturer. At the close the Chairman moved a vote of thanks to the lecturer for that and the previous lectures, which he said had been to him and the other members most interesting and instructive; and he hoped that at an early date they would be able to secure Mr. Heaton's services for another course. The proposition was carried with acclamation.

— **HORTICULTURAL CLUB.**—The annual excursion of the members and their friends took place under the most favourable circumstances on Tuesday the 19th inst., and its success was mainly owing to the exertions and kindness of Mr. Harry J. Veitch. A large party assembled at the Great Western station at Paddington, at ten o'clock, and were conveyed in a saloon carriage to Slough, where brakes awaited them, and were driven first to Stoke Pogis, in the churchyard of which village the poet Gray lies buried, and where he wrote his Elegy; the church is prettily situated in Stoke Park, and the members through the kindness of Mrs. Bryant had an opportunity of viewing the mansion and its contents. They afterwards drove to East Burnham Park, the residence of Mr. Harry J. Veitch, who had kindly invited the party to luncheon. Sir J. D. T. Llewelyn, Bart., M.P., the Chairman of the Club, thanked Mr. Veitch for his hospitality, and expressed his regret at the unavoidable absence of their Secretary. The party then drove to Dropmore, where a sight of the grand Conifers was much enjoyed. The return was made through Burnham Beeches, where some time was spent in viewing some of the finest trees, and then, after a stroll through the grounds occupied by these fine old trees, comprising about 400 acres, the party returned to Mr. Veitch's, where tea was kindly provided for them all, and they left for town at 6.45. It should be added that, not only did Mr. Veitch receive them "right royally," as one of their members expressed it, but he took upon himself the whole arrangements, and so well that not a single hitch occurred, and one of the most pleasant and enjoyable outings the Club ever had will be long remembered by all those who had the pleasure of sharing in it.

— CARNATION QUEEN OF YELLOWS.—We have pleasure in enclosing a bloom or two of our Carnation Queen of Yellows. We may be mistaken, but we are under the impression it's the finest yellow yet sent out.—B. S. WILLIAMS & SON. [We can only say we have never seen a finer yellow Carnation bloom than one of those sent, the two others being withered. It is of good size, symmetrical, with smooth broad petals, stout unbroken calyx, and rigid stalk. The colour is clear rich canary yellow, and the variety appears to be of considerable promise.]

— PHILADELPHUS GORDONIANUS.—Among the so-called Mock Oranges this stands out conspicuously as useful for late flowering, and on account of its very slight scent it is valuable for decorative purposes in the house. Some of the Mock Oranges have a decidedly objectionable perfume when confined to small, or even large rooms, but in the one under notice no objection can be taken on this score. In a young tree it grows luxuriantly, and needs room to develop, that is, in strong soil. It flowers on the ends of the matured branches, and has an erect and distinct habit. In an open position in my garden it flowers in July, when several other kinds are past.—WILTS.

— SPIRÆA FLAGELLIFORMIS.—This is so distinct from others in its growth and style of flowering, that many would not take it to be a Spiræa at all. It has an upright habit in the main branches, while the lateral growth droops gracefully on all sides, particularly that bearing the long wreaths of white blossoms. Its foliage is small and Acacia-like in character, which cut with the long drooping sprays of flowers are excellent for tall trumpet glasses in the house. It blooms from the end of June, and lasts some time in a fresh state. To flower freely it needs good soil, plenty of room to develop, and an open position to insure the growth becoming well ripened.—S. ASHTON.

— A USEFUL PEA.—I should like to supplement the selection of useful Peas given in a recent issue by your correspondent, Mr. W. Pea, by the name of another—viz., The Daniels. It is admirable for succession as a second early. All good exhibition Peas are not profitable, but The Daniels is an exception, as its large, well-filled pods are suited for show, and it is a prolific bearer. Growing a medium height, the variety is economical, and the flavour is excellent. In a cottage garden, early in July, I saw a row of this variety that would have struck envy into the heart of many an expert, and was convincing evidence that the variety is well worth a trial.—T. VERNON.

— HOLIDAYS ON THE CONTINENT.—The enterprise of the Great Eastern Railway Company is once more emphasised by the receipt of a small handbook containing particulars of the Royal Mail Route to Holland, Germany, Switzerland, Norway, and other continental countries via Harwich and the Hook of Holland. It includes five coloured plates illustrative of Dutch, German, and Norwegian scenery, as well as photographic pictures excellently printed. However, the chief value of the brochure lies in the letterpress, which, if carefully studied and acted upon, would go far to remove the difficulties that beset the traveller who is new to continental "ways and means." It may be procured from the Continental Department, Liverpool Street Station, or from the publisher, 30, Fleet Street, E.C.

— DAMSONS.—Whatever may be the general condition of the Damson crop elsewhere, certainly in one garden in Surrey, where there are probably a dozen trees of one variety, but which I do not know, there is a wonderful crop. It was a garden lying in the midst of a dense wood, somewhat elevated, and with a southerly aspect. To reach it on my round in judging gardens in the Ockham district my guide led me up a steep path, through lofty trees and bracken. The soil is literally a deep bed of sand. The Damson trees, that may have been some ten or twelve years planted, and all in rude health and berry clean, were laden with fruit. It could not have been the Farleigh Prolific, as the stems were smooth and spineless. The rather loose habit gave the trees with their weighty fruit a drooping aspect. A few acres of such trees would this year be a goldmine. No doubt the sweet sandy soil has much to do with this cropping, for the Mussel Plum and the White Bullace were fruiting abundantly also, and Apples were generally excellent. Then the dense surrounding of lofty Firs doubtless furnishes capital shelter from cold winds, the primary cause of insect attacks and of non-fertility, whilst the Firs harbour no insect pests, as ordinary deciduous trees do. I hope later to have an opportunity to see these Damson trees when the fruits are ripe. I had to visit numerous fine gardens in the district, nearly all on sand, but none showed such fruit crops on tall trees, though bush fruits were very plentiful and fine, as was found in this highly sheltered and warmly situated garden. I wish landowners could be induced to experiment on their estates with orchards on warm sites, enclosed on the cold aspects by lofty Fir trees.—D.



ROSE PERLE DES ROUGES.

IN our description of this charming Rose which accompanied the illustration (fig. 7) on page 43, by a clerical error it was stated to have been shown by Messrs. Paul & Son, Cheshunt. This was incorrect, as it was raised and exhibited by Messrs. Wm Paul & Son, Waltham, and to whom the award of merit was recommended by the Floral Committee.

LOOKING BACK.

WHEN one heard the remarks that were made as to the Hybrid Perpetuals not being up to the mark and that the beauty of the Bath show was confined to the Tea and garden Roses, it showed how soon the circumstances under which these southern shows had originated were forgotten. When the Society was first established only one exhibition in the year was contemplated—viz., the Metropolitan; this was held at St. James' Hall and at South Kensington, and finally at the Crystal Palace. As, however, it extended and increased, many earnest rosarians felt that they were shut out by their situation from exhibiting at the metropolis, and the cry was made that we ought to have a provincial exhibition as well; the Committee felt there was force in this, and so established a provincial exhibition without any reference to the geographical position of the place where it was to be held. Many successful exhibitions took place, the Society going, it will be remembered, as far north as Edinburgh, and as far south as Southampton.

Some years ago a complaint was made that the Tea Roses had not sufficient favour shown to them; they had become much more popular and much more widely grown, and it was stated that the first and best bloom of them was over before the Metropolitan show took place. Mr. T. W. Girdlestone took the matter up, and with his usual energy and foresight, proposed that a special show of Tea Roses should take place at the meeting of the R.H.S., held in the Drill Hall, Westminster, on the fourth Tuesday in June. This went on for a few years, and then people said, "Why not Hybrid Perpetuals as well as Tea Roses?" they were included, but then came the cry "Why not extend it more, and instead of having a few classes, have a Southern show at the end of June?" and so it came to pass that three exhibitions were held by the N.R.S.

Another fact which helped forward this movement was that by the time the Metropolitan show was held many of the beautiful garden Roses, which have latterly come so much into favour, were over, and it was thought if any earlier date were fixed they would be shown in greater perfection. This has proved to be correct, and no one who has seen the southern exhibitions of the last three years can have failed to appreciate the wisdom of the Committee in making this arrangement. It has unfortunately happened that 1897 and 1898 have been unfavourable years; we have had cold weather in May and the early part of June, so that the flowers have not had a fair chance. Few who were present will soon forget the melancholy state of things at Portsmouth, wind and rain and cold making the most unpleasant experience one could have. The Society was more fortunate this year, for the day on which it was held at Bath was an ideal day for a Rose show; it was bright, and a cool breeze prevented that deterioration of the flowers which so often happens. The place, too, where it was held, the Sydney Gardens, was the most charming *locale* one can imagine for a show. Alas! that it should be the last time that one is likely to be held there. The ground has been purchased by the Gordon Hotel Company, who will doubtless build there one of their huge caravan-series, and thus render the ground unavailable for any such purposes as Rose shows.

As a full report has already been given in the Journal of the Show itself, I shall simply notice points which most struck me. The Tea Roses were certainly the feature of the exhibition, and there were two amongst them which conspicuously outshone the others, Comtesse de Nadaillac and Cleopatra. I have had very little to do with the latter Rose, and from all I hear about it, it is an uncertain variety, and it is said to require a good many plants if you want to secure a bloom on the exhibition day. There were, however, some grand flowers of it exhibited. Mr. B. R. Cant showed a grand bloom in his stand of forty-eight, but I do not think any one of them was equal to the record bloom shown by the Rev. F. R. Burnside at Windsor, and took the second prize of twelve of any one variety of Teas; the first being taken by that "all conquering hero," Maréchal Niel, shown by Mr. Prince of Oxford. Cleopatra was one of the best of Mr. Bennett's

achievements, and was sent out in 1889. It is hardly necessary to say anything about Comtesse de Nadaillac, especially when exhibited by Mr. Prince. It is the grandest, I think, of all Tea Roses, and it is perhaps a pity that it has not a stronger constitution, though in some places I have seen grand plants of it, but its colour and form are so exquisite that when one hears of a new Tea the question instinctively comes to one's lips, "Is it equal to Nadaillac?" There were also some grand blooms of Maman Cochet, a Rose which has well maintained Guillot's fame as a raiser of Tea Roses. It is always pleasant to notice old Roses coming forward, and so one was glad to find our old friend John Hopper well exhibited, and it is a very early Rose, and this late season just suited it.

One of the most interesting contests in the exhibition was that for the George Prince Memorial prize for twelve blooms of Tea Roses. The trustees of this fund determined on making three separate classes, to be shown in successive years, the first for eighteen, the second for twelve, and the third for six. This gave all Tea growers a chance of winning it. This year it was won by Mr. Conway Jones, Hucclecote, Gloucester, whose box contained some fine blooms of the following varieties:—Golden Gate, Maréchal Niel, Souvenir d'Elise Vardon (very good), Cleopatra (fine), The Bride, Souvenir d'un Ami, Souvenir de S. A. Prince, Niphotos (good), Marie Van Houtte (very fine), Hon. Edith Gifford, Catherine Mermet, and Madame Hoste (very good). Mr. George Prince's own stand of twenty-four was, I think, the most striking one in the exhibition, containing grand blooms of Comtesse de Nadaillac, Souvenir de S. A. Prince, Madame Cusin, Princess of Wales (very fine); in fact, it would be very difficult to imagine a finer stand of Tea Roses than this.

There is always an interest attaching to the medal Roses. It was enhanced this year by the fact that the Committee of the N.R.S. had determined on separating the Hybrid Tea from the Hybrid Perpetual, and thus three silver medals for the best blooms were awarded instead of two as heretofore. In the amateurs' division these were carried off by Maman Cochet, Tea, a very beautiful bloom exhibited by Mr. Alexander Hill Gray; to Alphonse Soupert H.P., exhibited by Mr. S. P. Budd; and to Caroline Testout H.T., exhibited by Rev. J. H. Pemberton, who once more showed his pluck and loyalty in coming to Bath, although, truly speaking, his Roses were not in flower. In the nurseryman's division the medals were awarded to Lady Mary Fitzwilliam, H.T., exhibited by Messrs. Burrell and Co., which was for many years regarded as an H.P., but is now classed as an H.T.; to Comtesse de Nadaillac, T., a magnificent bloom of fine colour, shown by Mr. Prince, of Oxford, as only he can show it; to Tom Wood, H.P., shown by its raisers, Messrs. Alex. Dickson & Sons. It is a good Rose, bright in colour, and of a good form and substance, this bloom came from their Ledbury nursery. There were only two Roses exhibited for the gold medal for the seedling Rose, one of these came from the firm of Alexander Dickson & Sons, and is called Bessie Brown, a large creamy white flower, with a deeper tinge in the centre, bearing some likeness to Lady Mary Fitzwilliam in form, though of a different colour, and, like that flower, will be classed as a Hybrid Tea.

There was another Rose exhibited for the gold medal—Purity, by Messrs. Cooling & Sons, Bath. It is a remarkable garden Rose, excellent in form and flowering from every shoot, most constant, and blooming all through the season. Some of our members went out to see it in Messrs. Cooling's nursery, and were struck by its beauty as a very early free blooming garden Rose. There was some hesitation about awarding it a gold medal, probably arising from the fact that no garden Rose has as yet received that distinction, so it was passed by. I may, however, here say that the experienced band of judges who adjudicated on the exhibits for seedling Roses at the Metropolitan Show did award it a gold medal.

Garden Roses, as usual, attracted a great deal of attention, and some very beautiful stands were exhibited, especially those by Messrs. Cooling & Sons of Bath and Messrs. Paul & Son of Cheshunt. These two champions in this class ran what is called a neck-and-neck race. Of course Messrs. Cooling had an advantage in the exhibition, being close to their own grounds, and they carried off the first prize. Amongst the most noticeable blooms, both in the nurserymen and amateur divisions, were Gustave Regis, Paul's Carmine Pillar, Janet's Pride, Lady Penzance, Marquis of Salisbury, Purity, to which I have alluded, and which must be regarded as a Bourbon; Paul's Royal Scarlet, the finest colour of all the singles, and indeed one might say of almost any Rose; Marquis Litta, Yellow Austrian Briar, Bardou Job, Cooling's Yellow Noisette, a pretty and useful flower; lucida plena, rugosa fimbriata, a very pretty form of this useful Rose; Paul's Single White, macrantha, Laurette Messimy, Homère, Gloire de Rosamène, a Rose which ought to be more frequently shown, for there is no doubt it has largely entered into the composition of many of our most brilliant H.P.'s; Madame A. Carrière, a very useful and free-

flowering Rose; the quaint Crested Moss, and a brilliant coloured Ma Capucine, one of the most taking of garden Rose; and Hebe's Lip.

Thus, in the varied colours which are found in our cultivated Roses, the decorative varieties give us abundant examples. The encouragement which has been given to them by the National Rose Society has no doubt largely contributed to this result, but it is to be hoped that this new taste will not lead to the unpopularity of our larger and more beautiful varieties. We do not want to see such Roses as Marie Baumann, Charles Lefebvre, Madame Gabriel Luizet, and other well-known varieties, go out of cultivation. We may, in truth, say there is room for both, and as I look round now on my small Rose garden, with its dwarf plants of Hybrid Perpetuals and Teas, now in their full beauty, I do not think that the same amount of space covered by single and other decorative Roses would have half the charm.—D., Deal.

THE THREE SHOWS OF THE N.R.S.

THAT the Queen of Flowers has lost none of its hold on the affections of the British public is to a certain extent shown by the large number of visitors present this year at the three exhibitions held by the National Rose Society. On the day of the Metropolitan Show, which took place at the Crystal Palace on the 2nd inst., no fewer than 14,000 persons passed through the turnstiles, while as many as 20,000 are stated to have visited the Halifax Exhibition. There was also an unusually large and fashionable attendance at the Society's Southern Show held at Bath on June 23rd.

It may be said that many of the visitors we see at Rose shows are to a great extent induced to come to them by the other attractions usually provided on such occasions, and this is no doubt true. However, one has only to watch the eager, yet orderly, crowd streaming past the different stands in a Rose tent in order to form some idea how much exhibitions of this kind are appreciated by visitors of all classes.

But not only is the love of the Rose shown by this exceptional record of visitors, but also by the large and increasing number of exhibitors at these shows. It is not at all necessary for every Rose grower to be an exhibitor, but there can be little doubt but that it is principally owing to the influence and example of exhibitors generally that the standard of Rose culture is gradually being raised throughout the length and breadth of the land. The fact is, each exhibitor's garden forms a centre from which radiates in all directions an interest more or less strong in the cultivation of our national flower.

The Bath, or Southern, exhibition was the smallest of the kind yet held by the N.R.S., the total number of blooms of exhibition Roses being only 1180, or about half the usual quantity. This was, of course, due to the lateness of the season, which allowed only growers residing in the warmer parts of our islands to bring blooms to the show at that early date, June 23rd. The next exhibition, which was held at the Crystal Palace nine days later, was in extent an average one; but even then only exhibitors residing south of the Trent were enabled to compete, the most northern localities represented, at all events amongst the prizewinners, being King's Lynn and Leicester. The northern show, which took place at Halifax on the 14th inst., was, with one exception (that at Birmingham in 1890), the largest northern show ever held by the Society; 4100 blooms were staged in the classes for Hybrid Perpetuals, Hybrid Teas, and Teas and Noisettes, or sufficient with the "garden" or decorative Roses to fill four rows of staging in a tent 240 feet long.

There are many reasons why the interest in the Rose and its culture continues to be so well maintained, and is moreover, in my opinion, never likely to decline. I will mention only two. In the first place, besides being the most beautiful of all flowers, it is especially an amateur's flower—a flower that appeals to nearly every lover of a garden, and which he himself can rear and tend with his own unaided hands. With few exceptions the Roses we see at exhibitions have come from plants which have been either cultivated entirely by the exhibitor himself, or each cultural operation in connection with them carried out under his sole direction.

Then, again, we have only to look at the wide range covered by this lovely flower in order to form some idea as to its future capabilities—a range say, from the wild Dog Rose of our hedges to one of Mr. Prince's exhibition blooms of Comtesse de Nadaillac. Even at the present time, never before in the history of the Rose has there been such a number of choice varieties for the cultivator to select from. It matters little whether he required Roses for exhibition purposes, for the ordinary garden decoration, or for cut flowers for the adornment of the home.—E. M., Berkhamsted.

CAMPANULA PYRAMIDALIS.—Plants of this attractive Bellflower, both blue and white, are just coming into bloom, and should be well attended to with water and a little feeding. Fine specimens are obtained in 9-inch pots, such plants usually producing a tall strong central flower spike, as well as several smaller.—E. S.



DENDROBIUM STRATIOTES.

THE "Soldier" Orchid, as Professor Reichenbach somewhat peculiarly named this species on account of the tall erect stem, is one of the most beautiful of its class. The section is none too well represented in collections, the best known perhaps being *D. taurinum*, a bad plant to grow, though a beautiful one. The present species is now freely represented in first-rate collections, and does well. The flowers (fig. 13) are about 3 inches across, whitish with purple markings, the erect twisted sepals and petals giving them quite a distinct appearance from most Dendrobies.

It does best in pots of limited size in a hot, moist house, and owing to its habit of sometimes growing out of season the treatment of individual plants depends largely upon circumstance. Never

A STRAWBERRY SCHOOL,

WITH A FEW PEA PUPILS.

WHEN a man with the slightest journalistic instinct receives a hasty communication, with the magic words "Chiltern Hundreds" looming large upon it, he is enlivened as with a galvanic shock, for—as all the world knows—an application for the Chiltern Hundreds is synonymous with the resignation of a seat in the House of Commons. The happy and flattered recipient has visions of a piece of exclusive information, through the medium of which he can secure a place in the good graces of an enterprising editor, and put to utter confusion a horde of rivals. But after the words "Chiltern Hundreds," in the communication which I received, followed the enigmatical one, "Bring a basket." What could this be for? True, Mr. Pickwick was once transported from place to place in a wheelbarrow, but that was a different case altogether. However, the mystery quickly resolved itself. The letter did not announce a resignation, but an assignation. And the only election it foreshadowed was a vote on the best Strawberries and Peas in the Chiltern Hundreds nursery of Messrs. G. Bunyard & Co., the same to be recommended to the suffrages of that enlightened constituency—the readers of the *Journal of Horticulture*.

There were flags, jubilation, and blaring of cheap trumpets in Maidstone on the appointed day, for Kent had just defeated the mighty



FIG. 13. - DENDROBIUM STRATIOTES.

attempt to prevent the plant growing away when it is obviously about to do so, no matter what the time of year, but endeavour as far as possible to let the growths finish with the waning sun in autumn. The flowers last well in good condition, and do no harm to healthy plants by remaining on until they fade. It is a native of the Sunda Isles, and was introduced about 1885.

PALUMBINA CANDIDA.

The "Flying Dove Orchid," as this species has been somewhat fancifully called, on account of the disposition of the segments when the flower is open, is a distinct as well as a pretty and interesting plant. Botanically, there is little if anything to separate it from *Oncidium*, and to this genus it undoubtedly belongs in a scientific sense, but the unfortunate mistake of Reichenbach in creating a new genus has never been erased from gardening literature, and the above is the name by which it is still better known. The habit of the plant is dwarf; the flowers are produced, about six or more, on a purple scape, and are clouded white.

The plant thrives best in a house rather warmer than the Odontoglossum house, but if such a one is not at command they get along fairly well together. A thin surfacing of compost over good drainage suits it best, and it may be grown in pans or baskets, suspended from the roof for preference. *P. candida* is not a thirsty plant as Orchids go, but must be kept moist while growing, and during the resting season should have just sufficient moisture to prevent shrivelling of the pseudo-bulbs. It is a native of Guatemala, and first flowered in this country in 1843.—H. R. R.

Yorkshire team at cricket. Had the mouths of the trumpet-blowers been stopped with the Bunyardian Strawberries, it would have been quite as agreeable to them, and much more so to the rest of the community. However, the happy thousands enjoyed their blowing, and if one particular visitor to the county town on the day of triumph got a little tired of the music, his serenity was restored later on, notwithstanding that he had forgotten the basket, for the sight of the Strawberries was as refreshing on a hot day as a shower-bath would be in the desert. Really, the more a horticulturist sees of the wonderful business built up by Mr. Geo. Bunyard, the better he grasps its enormous extent, its many ramifications, the more he is struck with surprise and admiration. And by the time he has wandered through a portion of the sixty-six glass structures, through the herbaceous garden, amongst the Roses, through the shrub quarters, in and out of the corn and hay fields, round and about the acres upon acres of garden vegetables coming on for seed—by the time, I say, that he has done all this, he wonders that there can be anything left of the old idea that this is a fruit firm, and nothing more.

However, here we are at a familiar four-went-way, with the Chiltern Hundreds Inn standing at one corner, Detling village nestling under the hills a mile away, and all around a beautiful scape of wood and meadow. The door of the Strawberry school is only a few yards off, and the reigning queen of it, Royal Sovereign, first arrests the eye. It is good to see this magnificent variety in the forcing house, good to see it in the garden, but best of all to see it in broad acres, filling the eye with its ample proportion, its splendid leafage, and its great clusters of handsome fruit. As an early, the middle of July sees it past its best with respect to size of fruit, but the sterling qualities which have made it famous are there. Like the other leading varieties, it may be seen under two aspects—(1) the fruiting plant, which is a two-year-old, and (2) the stock

plant, which is a yearling, and has all its energies concentrated on the production of fine layers. It is an open question which is the more impressive—a glance along the rows of fruited with their rich burden, or one along the lines of breeders. The latter are yielding splendid little tufts, all hand-pegged into small pots plunged to the rims, and the long streams of red runners are full of promise for the future.

The demand for good Strawberries was probably never greater than it is at the present time, and the success of Royal Sovereign proves that there is no locked door. That which is superior will come to the top. There are plants of other candidates in the school, some with one quality, some with another. King of the Earlies has two very important ones—flavour and precocity. Tastes differ, but if a vote were taken for eating quality alone, the King would be very nearly at the top of the class. There are two Augustes, one remarkable for its forcing merits, as proved so well by Mr. Norman, the other a grand “all-rounder,” a free grower and good bearer, with large fruit of excellent quality. The former, I need hardly say, is Auguste Nicaise, the other Auguste Boisselot. No need to say much about British Queen and Dr. Hogg. The latter Mr. Bunyard holds to be about the best garden Strawberry in cultivation. It has, however no mean rival in Countess. A little-known Strawberry that is certain of popularity is Edward Lefort. It is early, it is a capital doer, and, almost better than either, it has delicious flavour. Mr. Castle spoke of its excellence to me at Ridgmont last spring, and I have never regretted adding it to my small collection.

The most distinct Strawberry in the whole collection, and very far indeed from being the worst, is the new Louis Gauthier. It is a tremendous bearer, the fruits surrounding the plant in heavy clusters. In colour they are salmon-pink; the flavour is excellent. Queen of Denmark, a variety of Carmichael's, with Waterloo blood in it, presents powerful claims as a late, combining rich flavour with free fruiting. La France is a delicious sort—indeed, one of the pick of the continentals. Two lates, which ought to appeal to Scottish sentiment, are New Dumbarton Castle and Aberdeen. Both are good. A German might be divided between König Albert and Walluff. Each would just about secure the coveted three crosses. A little known sort that gave great satisfaction under the tasting test is Newton Seedling, and it is a heavy bearer. The irrepressible Laxtons are, as might be expected, well in evidence. Besides Royal Sovereign there are No. 1, very early and good; Leader, big and plentiful, but lacking in flavour; Sensation, also a poor eater; Monarch, excellent in crop, and caught just at its best good in flavour; Noble, now well known; and Latest of All. The latter is not the latest of all the Chiltern champions, but it is a good one—in fact, all qualities weighed, one of the very best of the Laxton contingent.

I mentioned to Mr. Bunyard the case of a 3-acre man, who makes a good deal of money out of John Powell, and he promptly pointed out the variety under the name of Kitley's Goliath. It is, of course, a very old one; but strange to say, considering its excellence, it is new to many. Much the same might be said of Trollope's Victoria, which, with its smooth bright leafage, is the true town Strawberry. Needless to say that such standard varieties as Sir Joseph Paxton, Vicomtesse H. de Thury, La Grosse Sucrée, Lord Napier, President, Eleanor, and Elton Pine (so good, like Grove End Scarlet, for preserving) have their place, and an honoured one it is in every instance. It is quite unnecessary to recommend such varieties as these to the intelligent electorate which I am permitted to address, but if I might venture on a pick of the novelties I should name Auguste Boisselot, Edouard Lefort, King of the Earlies (if it may be admitted as a novelty), La France, Latest of All, Louis Gauthier, St. Joseph (a splendid perpetual or autumnal sort), and Royal Sovereign.

Alongside the Strawberry quarters are the Peas, and my guide proves himself to be just as much at home with the one as the other. I happened to encounter that splendid fruit grower, Mr. Woodward, in Maidstone, and he prepared me for something good by his reference to the style in which the popular summer vegetable is grown at the Chiltern Hundreds nursery. But he might have said a good deal more without being accused of exaggeration. Rarely is such wonderful culture seen. The pods hung like pins on a card from top to bottom of the plants. About the most remarkable for productiveness was Marvel, but many others ran it very close. It was pleasant to see Gradus so fine; it is a grand Pea. The best of the dwarfs were Wm. Hurst, Daisy, Juno, and Bunyard's Early. Of taller Peas, all rich in flavour, Boston Unrivalled (Johnson), Consummate, Autocrat, Alderman, Superiority, Duke of Albany, Duchess, and Epicure were the pick. I leave to the last Kentish Hero, a splendid selection of the Ne Plus Ultra type, smothered all over its 6 feet of height with pods.

A ramble through the fields (with an eye to the breadth of 60,000 Superlative Raspberries), a passing call at the picturesque old farm-house, which is the summer home of the family, and then—why then I espy a waiting bicycle and the first stretch of twenty miles of road, where dust is deep and Strawberries grow not. Alas! for the forgotten basket.—W. PEA.

PEA DAISY.—As a second early, this Pea certainly would appear to have a claim to a foremost place among future favourites, particularly with those needing dwarf-growing sorts. With me it grows to about 16 inches high, the haulm robust, and the pods and seed of large size. It is very productive too, which, however, can be said of most dwarf Peas. There is a unanimous verdict in its favour among those who have both grown it or seen it in other gardens. It has all the qualities needed in a second early, but it cannot compete with the American Wonder type for first crops.—W. S.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL.—JULY 26TH.

THE exhibition at the Drill Hall, on the above date, was an excellent one for the time of the year, though it consisted mainly of hardy flowers. The several collections of Bamboos were most interesting, and a complete change from what is usually seen at these fortnightly shows. Messrs. Veitch's Gooseberries and Currants in pots were admirable examples of good culture. The standard and other forms of trained trees were all splendidly fruited. Orchids, as is customary at this season, were not at all numerous.

FRUIT COMMITTEE.—Present: Phillip Crowley, Esq. (in the chair); with Messrs. Geo. Bunyard, T. F. Rivers, W. Poupart, A. F. Barron, M. Gleeson, T. J. Saltmarsh, J. H. Veitch, A. H. Pearson, A. Dean, C. Herrin, W. Bates, G. Wythes, J. Smith, F. Q. Lane, J. Willard, and W. H. Divers.

Messrs. J. Veitch & Sons made a magnificent display with Gooseberries, Red and White Currants, and Nectarines in pots. Of the Gooseberries and Currants there were several forms of training represented, and the way in which they were roped with fruits was a splendid illustration of their adaptability to this form of culture. All varieties were cropping with almost equal freedom, some being perhaps a little better than others. There were seventy-four trained plants in pots, of which over fifty were distinct varieties, while in addition there were eighteen grown in standard form. The Nectarine was Précoc de Croncels, of which the fruit had ripened in a cold house at the firm's Southfield nursery. Fruits of eight varieties of Cherries were sent by the same firm. The varieties were Black Eagle, Governor Wood, Kentish, Early Red Gean, White Heart, Cleveland Bigarreau, Baumann's May, and Bigarreau Napoleon. Strawberries were also well shown, Veitch's Perfection being very conspicuous. Mr. Owen Thomas, Royal Gardens, Windsor, sent handsome fruits of Melon Lord E. Cavendish.

Messrs. T. Rivers & Son, Sawbridgeworth, exhibited Plums Belgian Purple and Rivers' Early Transparent Gage, with Cherries Lewis de Burr, Large Black Bigarreau, White Bigarreau, Early Rivers, Bigarreau Napoleon, Hâtive de Boulbon, Ludwig's Bigarreau, May Duke, Bigarreau de Schrecken, and Frogmore Bigarreau, all in splendid condition.

Messrs. W. Johnson & Son, Ltd., Boston, sent about four dozen dishes of Green Peas, amongst which some varieties of decided excellence were noted. Critic, Consummate, Alderman, Duchess, Memorial, Majestic, Heroine, John Howard, and Epicure were fine. Peas were also contributed by Messrs. Sutton & Sons, Wright Bros., H. Eckford, Nutting and Son, and other growers. Mr. Allan, Gunton Park, sent Strawberry Lady Suffield, a dark coloured free fruiting variety.

Mr. W. Carmichael, Edinburgh, staged a few dishes of Strawberries, but no awards were made by the Committee. Mr. W. Taylor, gardener to C. Bayer, Esq., Forest Hill, sent fine fruits of Pineapple Nectarine; and Messrs. Laxton Bros., Bedford, Strawberry Trafalgar, a dark coloured variety resulting from a cross between Waterloo and Elton Pine. Mr. W. H. Divers, gardener to Duke of Rutland, Belvoir Castle, Grantham, sent splendid examples of Strawberries Dr. Hogg, Gunton Park, and Waterloo.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with Messrs. J. Fraser, O. Thomas, H. B. May, R. Dean, C. J. Salter, J. Walker, C. E. Shea, D. B. Crane, E. Jeffries, H. J. Cutbush, J. W. Barr, H. J. Jones, E. T. Cook, J. Jennings, J. Hudson, H. S. Leonard, G. Gordon, and J. Fraser (Kew).

Mr. H. B. May, Upper Edmonton, sent a splendid group of Pteris comprising 100 species and varieties. The plants were splendidly grown, and the diversity made the exhibit very interesting. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, arranged hardy flowers in variety, Liliacs being particularly attractive. Messrs. W. Cutbush & Son, Highgate, exhibited an effective stand of herbaceous flowers, together with fine Malmaison and border Carnations. Unfortunately the position assigned to the group prevented much of the beauty of the flowers being seen. Mr. T. Tomlinson, gardener to R. Hoffman, Esq., West Dulwich, contributed an assortment of well-grown Caladiums. The leaves were finely developed and of good colour.

Messrs. Barr & Sons, Covent Garden, sent their customary exhibit of hardy flowers. Good culture was, as usual, in evidence, the Iris Kämpferi, Phloxes, Gaillardias, Liliacs, and Romneya Coulteri being particularly conspicuous. A large collection of Sweet Peas was shown by Messrs. J. Carter & Co., High Holborn. They were staged in bunches in small glasses, which did not enhance their beauty. The stand comprised upwards of 100 varieties. Mr. W. Eckford, Wem, sent a number of Sweet Peas, representing several of the best varieties, all excellently grown. Mr. Amos Perry, Winchmore Hill, showed a few bunches of herbaceous flowers, quality taking the place of quantity.

Acalypha Sanderi, A. Godseffiana, with a few other plants, made a bold show as arranged by Messrs. F. Sander & Co., St. Albans. Messrs. J. Veitch & Sons, Chelsea, contributed a collection of Carnations in boxes. Several of the flowers were of excellent quality, and represented a considerable number of the most popular varieties. The same firm sent plants of the handsome Althæa Primrose Queen, with a few bunches of hardy flowers. A large portion of one of the central tables was occupied by Cacti, staged by Messrs. H. Cannell & Sons, Swanley. The group was well diversified and most interesting to lovers of these plants.

The decorative Roses from Messrs. Wm. Paul & Son, Cheshunt, made a bright and fragrant display, and were a change from the other exhibits in the hall. Very handsome were Marquise de Salisbury, Perle d'Or

Gloire des Polyantha, Camoens, Ma Capucine, Crimson Rambler, Ada Carmody, and Enchantress. Messrs. Wallace & Co, Colchester, sent an assortment of hardy flowers, in which Lilliums, Calochorti, and Irises were particularly prominent. Sweet Peas were splendidly staged by Messrs. Dobbie & Co., Rothesay. The varieties were numerous, and of excellent quality. Violas were also contributed by this firm. Messrs. A. W. Young & Co., Stevenage, exhibited a large collection of herbaceous flowers.

There were many flowers of fine quality in the group of hardy herbaceous flowers from Mr. M. Prichard, Christchurch, Hants. The diversity also was excellent. Chas. J. Grahame, Esq., Leatherhead, sent several boxes of Roses, in which excellent examples of several of the leading varieties were to be seen. Mr. J. Hudson, gardener to Leopold de Rothschild, Esq., Gunnersbury House, showed Water Lilies in his usual grand form.

SHERWOOD CUP.—Messrs. J. Veitch & Sons were again the only exhibitors in the competition for this cup, which is offered for annuals and biennials. The stand was a charming one, and comprised many easily grown plants that would adorn any garden.

BAMBOOS.

Three collections were sent, that from Mr. J. Garrett, gardener to A. B. Freeman Mitford, Esq., Moreton-in-Marsh, being very handsome. The plants were in pots, and ranged from about 1 inch high to 3 or 4 yards. Amongst the handsomest were *Bambusa quadrangularis*, *Arundinaria spathiflora*, *A. chrysantha*, *A. Fortunei*, *A. Veitchi*, *A. metallica*, *A. pygmaea*; *Phyllostachys nigra*, *P. fulva*, *P. Quiliol*, *P. mitis*, *P. Henonis*, *P. flexuosa*, *P. Borgana*, *P. aurea*; *Bambusa nageshima*, *B. tessellata*, and others.

Messrs. J. Veitch & Sons staged splendidly their excellently grown specimens, being shown in circular hampers. Chief amongst them were noticed *Arundinaria Fortunei aurea*, *A. F. variegata*, *A. pumila*, *A. nitida*, *A. japonica*, *A. Hindsii*, *A. Veitchi*, *A. Simoni striata*; *Phyllostachys mitis*, *P. nigra*, *P. Kumasasa*, *P. nigro-punctata*, *P. aurea*, *P. Quiliol*, *P. Henonis*; *Bambusa nageshima*, *B. Alphonse Karri*, *B. marmorea*, *B. palmata*, *B. Ragamowski*, and *B. disticha*.

Mr. T. S. Ware's group of Bamboos was small but still interesting. All the plants were in pots. *Bambusas*, *Arundinarias*, and *Phyllostachys* were all represented.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, De Barri Crawshay, H. Little, N. C. Cookson, J. T. Gabriel, H. J. Chapman, F. J. Thorne, W. H. Young, R. Young, T. W. Bond, W. Cobb, F. Mason, H. M. Pollett, and H. Ballantine.

Orchids were, as has been said, by no means numerous, but those that were shown were of excellent quality. Messrs. J. Veitch & Sons' seven plants represented good quality. They comprised *Laelio-Cattleya Amesiana*, *L.-C. Ingrami gigantea*, *L.-C. Zephyra*, *L.-C. Lucilia*, *L.-C. Callistolossa ignescens*, *Cattleya Enid*, and *Masdevallia Imogen*. Mr. E. Roberts, gardener to W. G. Groves, Esq., Holehird, Windermere, sent a magnificent specimen of *Odontoglossum coronarium*. It was carrying two superb spikes.

Messrs. H. Low & Co., Bush Hill Park, exhibited a small group of Orchids, comprising *Cattleyas* and *Vanda cœrulea*. Messrs. de Barri Crawshay, G. W. Law Schofield, N. C. Cookson, H. J. Chapman, F. Sander & Co., and W. C. Clark each sent a single Orchid.

MEDALS.—Fruit Committee: Silver-gilt Knightian medal to Messrs. J. Veitch & Sons, and silver Banksian medals to Messrs. Johnson & Son and T. Rivers & Son. Floral Committee: Gold medal to Mr. A. B. Freeman Mitford; silver-gilt Flora to Messrs. J. Veitch & Sons; silver Floras to Messrs. Dobbie & Co., R. Hoffman, Wm. Paul & Son, and H. Cannell and Sons; silver-gilt Banksians to Messrs. H. B. May and R. Wallace and Co.; and silver Banksians to Messrs. J. Veitch & Sons, Barr & Sons, W. Cutbush & Son, T. S. Ware, C. J. Grahame, and M. Prichard. Orchid Committee: Silver Flora medal to Mr. G. Groves, and silver Banksian medal to Messrs. H. Low & Co.

CERTIFICATES AND AWARDS OF MERIT.

Arundinaria nitida (J. Veitch & Sons).—A very graceful plant, with numerous narrow leaflets springing from the black growths (first-class certificate).

Arundinaria Veitchi (J. Veitch & Sons).—A dwarf-growing plant, with bright green leaves nearly 2 inches wide (award of merit).

Arundinaria aristata (A. B. Freeman Mitford).—A handsome variety with long narrow leaflets of a light green shade (award of merit).

Buddlea variabilis (W. Paul & Son).—A handsome shrub from Japan, The colour of the flowers, which are borne on long spikes, is pale mauve (award of merit).

Carnation Isinglass (C. J. Salter).—A magnificent clove-scented variety, with broad petals of a bright crimson colour. The calyx shows no tendency towards cracking (award of merit).

Carnation Lady Sophie (F. Tapper).—A salmon-rose coloured variety of good form. It is faintly scented, and does not split the calyx (award of merit).

Cherry Early Rivers (T. Rivers & Son).—A grand dark coloured variety that is now well known (first-class certificate).

Laelio-Cattleya Ingrami gigantea (J. H. Veitch & Sons, Ltd.).—A magnificent flower that stands well up and shows its beauty. The sepals and petals are of beautiful form, and are a rich rosy purple in colour. The breadth of the flower, measuring to the tips of the petals, is $7\frac{1}{2}$ inches, and the depth $7\frac{1}{2}$ inches. The petals are $2\frac{3}{4}$ inches broad. The lip is

very effective, being charmingly fimbriated, and rich velvety crimson in colour (first-class certificate).

Laelio-Cattleya Schilleriana Cambridge Lodge Variety (H. J. Chapman).—This is a charming variety. The sepals are pale blush, and the petals white, suffused and flushed with purple. The lip is purplish maroon (award of merit).

Lettuce Crystal Cabbage (Watkins & Simpson).—This is a medium-sized Cabbage Lettuce of good appearance (award of merit).

Masdevallia Imogen (J. Veitch & Sons, Ltd.).—This is a beautiful flower that resulted from a cross between *M. Schlimi* and *M. Veitchi*. The colour is bright brown with yellow spots (award of merit).

Nymphæa tuberosa (J. Hudson).—A beautiful Lily of attractive salmon rose colour (first-class certificate).

Nymphæa odorata rosacea (J. Hudson).—A large flowered variety with bright red flowers (first-class certificate).

Phyllostachys castillonis (J. Veitch & Sons).—The grass-green leaves of this plant are occasionally striped with white, which much enhances their beauty (award of merit).

Phyllostachys fulva (A. B. Freeman, Mitford).—This plant has a somewhat spreading habit. The colour is dark green, and the growth is graceful (award of merit).

Plum Rivers' Transparent Gage (T. Rivers & Son).—A magnificent variety of splendid flavour (first-class certificate).

Raspberry Golden Queen (J. Veitch & Sons).—This is a yellow-fruited variety, of fine flavour. The fruit is handsome in shape and of attractive appearance (award of merit).

Rose Souvenir de Madame Levet (W. Paul & Son).—A lovely variety with rich orange coloured flowers (award of merit).

Rose Charlotte Guillemot (W. Paul & Son).—A Hybrid Tea of much promise. The colour is pale cream (award of merit).

Strawberry Lady Suffield (W. Allan).—A dark coloured variety of good flavour. It is free bearing. The typical shape is a medium wedge. The flesh is very firm (award of merit).

Turnip New Model (Watkins & Simpson).—A fine white Turnip of the Snowball type (award of merit).

BARKBY HALL.

A BRITON feels at home anywhere, and jealous tongues have sometimes asserted that John Bull looks upon the whole world as his own, and can usually rely on meeting representatives of his sturdy race in any quarter of the globe he may chance to wander to. If we agree that this is substantially true, it shows how still more easy it is to wander to various districts of our own land, and yet feel that we are among friends. Gardeners especially fraternise, and as they pitch their tent in the various halting places of life's journey, may always find friends staunch and true to welcome them. Such at least has been my experience, whether in the fruitful sunny land of Kent, the wide stretching plains of Lincolnshire, among the rich meads of Wiltshire, the leafy lanes of Warwickshire, or the breezy pastures of Leicestershire—in fact, human nature seems to be identical everywhere; no one need in reality feel lonely in any part of the great world. Such thoughts as the above passed through my mind as I recently wended my way towards Barkby Hall, the pleasantly situated residence of T. Brooks, Esq., to visit a newly found friend and earnest worker in the horticultural world, Mr. J. Lansdell. The pretty village of Barkby is situated about five miles from Leicester; and close to the commodious church, with its shapely spire, the Hall gardens begin and extend toward the undulating park.

Roses are a great feature at Barkby, and on entering the garden door a veritable feast of Roses met the eye, for there, in a fine open sunny garden, their lovely blooms are seen in a high phase of beauty. Roses occupy beds throughout the greater part of it, with a border of gorgeous mixed flowers as a background, and a range of vineries beyond. The Teas are the first to arrest attention, and grand they are, certainly I have seen no finer collection in any private garden. Most of the best new and old varieties are represented; every bloom is a good one, and many are of superb quality.

The plants, which are grown on the seedling Briar, are pruned to the ground line each year, and the shoots are allowed to carry one flower each. About 2600 bushes are grown, so that there is no lack of quantity as well as quality. The following varieties were in grand form, and should be in every collection:—*Madame Lambard* (splendid in form and colour), *Madame C. Guinoiseau*, *Medea*, *Marquis Litta*, *Cleopatra*, *Hon. Edith Gifford*, *Grace Darling*, *The Bride*, *Anna Olivier*, *Comtesse de Nadaillac*, and in fact nearly all the best varieties in cultivation.

Although such satisfactory results have been achieved with Teas in the open air in a very cold district, no natural manures are used. Mr. Lansdell relies entirely upon chemical ones, which he mixes himself, or applies the several ingredients separately at various seasons of the year, kainit and basic slag being usually given in the autumn, and nitrogenous manures in the form of nitrate of soda or sulphate of ammonia in spring. At the time of my visit the Hybrid Perpetuals were only just beginning to unfold their blooms, but the buds showed plainly that blooms fit to grace the exhibition tent would shortly be forthcoming in large numbers.

Passing from the Rose garden to the lawns and flower beds we walk beneath lovely arches of Roses, on which myriads of opening buds as well

as fully expanded flowers formed a picture to delight the eye of an artist, or win the admiration of all who see them in their summer glory. Dundee Rambler, Madame Plantier, Amy Vibert, and the grand old Blairi No. 2 seemed to vie with each other in displaying their wondrous charms. From the Roses our eyes turn to the flower beds, where bright colours and pretty combinations of flowers and foliage are seen on all sides. There is no formal flower garden of the stereotyped style, but something better—viz., large beds, or groups of beds, judiciously disposed with backgrounds of shrubs or spreading trees to give relief and create a series of surprises at each step. One large circular bed struck me as being particularly effective and novel. The groundwork was formed of rings of blue, yellow, and white Violas (flowering grandly); summer flowering Chrysanthemums, and Gladiolus were used as dot plants, and blue Lobelia and Ajuga aurea as an edging.

In another direction the rounded sweep of a border on sloping ground was rendered bright and effective by planting irregular bands of yellow Calceolaria. Henry Jacoby and the silver-leaved Mrs. Foster Pelargoniums. Smaller beds were filled with Begonias, or foliaged plants, and a few examples of carpet bedding. As a central object to this part of the grounds stands a commodious conservatory of the old type, lofty and well adapted for showing plants to advantage when they have been grown elsewhere, but not calculated to keep them sturdy and dwarf if their sojourn in it is a long one. Palms and Ferns, however, thrive well in it, as some good examples attested. Roses are employed as climbers with fine results, as a common mistake of training the shoots too thickly is avoided. Strong well-ripened shoots are produced, with fine flowers. Cheshunt Hybrid and climbing Niphetos were each carrying numbers of splendid blooms.

The glory of the house in regard to Roses, however, is a wonderful plant of Fortune's Yellow, or Beauty of Glazenwood. It has grown with two straight clean stems up to the roof, and from thence spreads out in all directions. It usually flowers in March, and as many as 2650 blooms have been cut from it in one season. After flowering the old shoots are cut hard back, and the young ones shortly after produced are trained thinly as they advance in growth. The pink Oleander was, I noticed, flowering finely, large plants being confined to comparatively small pots—an important item of culture for securing floriferousness. Onward toward the mansion we pass two remarkably fine specimens of Dracæna Veitchi placed on each side of the walk at the end of some well executed slopes of rockwork, among which hosts of suitable plants were growing in rich profusion.

The greater part of the mansion is surrounded by a pleasant verandah which is draped with hosts of free-growing climbers, Roses predominating. Crimson Rambler, Dundee Rambler, and many others of the same type were in full beauty, being loaded with countless buds and opening flowers, forming a vision delightful indeed to all who pay court at Flora's shrine. Just as we turn to leave I catch sight of something novel in the distance, a glorious groundwork of greenery with bright bits of colour springing from it. What can it be? A few yards of space are soon traversed, and lo! I find it is a sloping bank covered with Ivy, with masses of scarlet Geranium and Calceolarias springing up between, and a few Foxgloves at the back. The idea is a good one, and worth copying, though a little labour is necessary to keep the Ivy in check.

In the kitchen garden, good culture, order, and cleanliness are apparent on every side. Many of the fruit trees on the walls are old, but still fruitful, because they have been rejuvenated by grafting, a practice which, under various circumstances, might often be profitably followed in preference to planting young trees. Pears and Plums on walls I noticed were generally a good crop, and Apples in the open quarters looked extremely promising, as a good set had been obtained, and the highly important matter of thinning the fruit had also received due attention. Good breadths of early Peas were ready for picking on a warm border. Chelsea Gem and English Wonder, growing side by side—the sowings having been made on the same day—showed no perceptible difference in point of earliness, but the first named variety gives a longer succession of pods.

Mr. Lansdell is an advancing gardener who likes to keep pace with the times. One way in which he strives to do so is by attempting to raise superior varieties of fruits or vegetables. At the present time he has several extremely promising seedlings. Strawberries. One in particular is, I think, destined to make its mark if put into commerce, for it is absolutely the heaviest cropping variety I have seen. The fruit is of large size, and the flavour first-class. The Rhubarb quarter might not be considered a particularly attractive part of the garden at this season, but I made a discovery there in the form of an ideal market growers' variety of this popular edible. I noticed a row having very pronounced characteristics. The leaves, although fully developed, were only about one-third the size of ordinary varieties; the stems are thick, sturdy, and highly coloured. On inquiring I found it was a seedling. I am, as a rule, no prophet, but for once I am going to move out of the beaten track and predict that this seedling Rhubarb will ere long be one of the most popular and widely grown varieties in Britain.

The glass structures are not extensive, but the best use seems to be made of them, for they are filled with such useful materials as are in constant demand. Melons and Tomatoes, a mixture not often seen, are

each doing well in one house. Pelargoniums and Tomatoes are more generally associated, and in another house they are the principal occupants. A fernery and a new and substantially built Peach house planted with young trees are next inspected, after which we enter a good sized vinery in two compartments. The Vines in this house are considerably more than 100 years old, and yet the crop of Grapes is, for weight and finish, quite as good, nay better, than many young Vines annually produce. Many of the bunches are from 2 to 3 lbs. in weight, and perfect in shape and finish. The old rods were some years ago cut away quite close to the ground, and new ones taken up, but the enormous thickness of the main trunks at the ground line shows plainly their great age. The varieties grown are principally Black Hamburg, Gros Colman, and Muscat Hamburg, and the man who can produce such results with old Vines is capable of doing as good work as any yet accomplished by Grape growers.

The pen has now run on somewhat beyond its usual limit, but before closing these notes I must with pleasure record that Mr. Lansdell is happily placed in having generous employers, who love their gardens, and take the greatest interest in them. Thus it is that during the twenty-six years that Mr. Lansdell has spent at Barkby Hall, the happiest relations have existed between employer and employed. The rapidly developing town of Leicester boasts of a splendid technical school. In connection with it during the winter session Mr. Lansdell teaches horticulture to a considerable number of pupils, many of whom enter for the examinations of the R.H.S., and this season every candidate passed; one I believe obtained as many as 260 marks out of a possible 300.—WANDERER.

MECONOPSIS WALLICHI.

THE flowers sent by "C. D., Kent," are those of the so-called Blue Poppy, Meconopsis Wallichii, which belongs to the natural order Papaveraceæ. It was discovered in the Sikkim Himalaya by Sir J. D. Hooker, who sent seeds to the Royal Gardens, Kew, which produced flowering plants in June, 1852. The root-leaves are very large, often 12 to 18 inches or more long, stalked, and much lobed and cut. The stem-leaves are small and without stalks. The flowers are rather numerous produced from the axils of the upper stem-leaves, on short drooping peduncles, and are of some size; the ring of yellow stamens round the seed-vessel contrasts charmingly with the pale blue colour of the petals. The seed-vessel is more elongated than in the true Poppies, and is densely clothed with erect bristle-like hairs or setæ; the stigmas are elevated on a thick cylindrical style as long as the ovary, as shown in the figure.

In Meconopsis Wallichii (fig. 14) and the other species of this genus the capsule opens when ripe by six or seven valves at the top of the style, which appears to be rather a mere elongation of the ovary than what is generally understood to be a true style. The numerous seeds are arranged on thin membranaceous plates, radiating from the inner walls of the capsule.

The plant is a biennial, and is reputed somewhat difficult to grow, though we have seen it thriving in a shaded, sheltered position, on the rockery at Kew. Mr. Robinson, in *The English Flower Garden* (J. Murray), gives the following hints as a successful system to follow with this plant. A piece of ground is prepared by digging in good loam and well decayed stable manure; a two-light frame is placed over it, and seedling plants are put in about March. As soon as the plants are fairly established the sashes are removed (unless the weather is frosty), and throughout the summer the plants are well supplied with water. During the following season, in April or May, they will have become large plants, often 2 feet to 3 feet in diameter, and are then removed to where they are wanted to flower. This may be readily done without checking them much, as they form such a large quantity of fibrous roots that usually a good ball of soil may be had with them. They are thus grown on as quickly as possible, treated like biennials. They should be planted out on well-drained rockwork in good soil, with a plentiful supply of water in summer, but they must be kept as dry as possible in winter, as excessive humidity in cold weather soon kills them. Pieces of sandstone broken finely should be placed under the leaves so as to prevent them coming in contact with the damp soil. A piece of glass placed over the leaves in a slanting position also protects them from too much moisture.

HARBINGER POTATO.—For a round this is a decidedly early variety, with me; in fact, it is as early as Sharpe's Victor, Ringleader, and others of the Ashleaf type. Those who prefer a white-fleshed Potato may well choose it for an early crop, no other that I have grown having such a pale colour when cooked. In the stalk it is distinct, and what is important in the early plantings, it is not so delicate in the leaf as some, consequently light spring frosts do not have the same damaging effects as is noticeable in some kinds. It is not a large Potato, but it yields heavily, and for the earliest digging this is the more important point.—W. S.

HORTICULTURAL SHOWS.

SCOTTISH HORTICULTURAL ASSOCIATION.—JULY 20TH.

WHAT is termed the "Strawberry meeting" of this Association was held in the Albert Hall, Edinburgh, on Wednesday, July 20th. Hitherto the meeting has been held in the Society's rooms, but this year a new departure was undertaken and the above Hall secured. Admission to the public was free, and a good number took advantage of the privilege. Next year the energetic President, Mr. Todd, hopes to organise a good Rose show with this meeting, and there is not the slightest doubt of success, for a Rose show is much wanted in the Scottish capital.

Fine baskets of Strawberries were exhibited by Mr. McIntyre, the Glen, Innerleithen, including one fine variety, named "Glen Diamond," amongst others. Mr. Kirk, Alloa, had nine dishes; Mr. Carmichael sent his new variety, Princess of Wales, and others; Mr. M. Temple, Carron, sent Duke of Edinburgh; Mr. McKenzie, Trinity, had Scarlet Queen, one of the best dishes before the meeting; Mr. Dunn, Dalkeith, sent eighteen dishes, and several bunches of Alpines; and many other gardeners contributed to the success of the meeting. So far as could be seen, President and Royal Sovereign were the standard varieties grown by all.

The trade at two days' notice responded well to Mr. Todd's invitation to help the Association, Messrs. Jas. Cocker & Sons, Aberdeen, sending a large collection of Roses and herbaceous flowers. Messrs. Smith & Son, Stranraer, had a fine stand of Roses, as also had Mr. Hugh Dickson, Belfast. Messrs. Laing & Mather, Kelso, sent three vases of crimson Malmaison Carnations. Messrs. Grieve & Sons, J. Downie, Laird and Sons, and Dickson & Co., Edinburgh, sent stove and greenhouse plants; Messrs. Dobbie & Co., Rothesay, exhibited a fine collection of new Sweet Peas; and Mr. M. Cuthbertson, Rothesay, herbaceous flowers.

CARDIFF.—AUGUST 20TH AND 21ST.

THIS fixture was much earlier than usual, and owing to the general backwardness of crops it would not have been surprising if some classes had filled badly. As it happened, there was no great falling off observable, and what little was lacking in the fruit and vegetable tents was more than compensated for in the other sections of the exhibition. The trade exhibits alone made a very attractive display, while the groups of plants and cut flowers were exceptionally good. Favoured with fine weather a great success ought to have been scored, but the coal strike is felt severely in Cardiff, and a pecuniary success was scarcely anticipated. Mr. Harry Gillett is the experienced hard-working Secretary, and his efforts were well backed by an influential Committee, of which Mr. A. E. Dixon is the capable Chairman.

GROUPS AND PLANTS.

The best prizes were allotted to the classes for groups of plants arranged for effect, these occupying one large tent. For a group to occupy a space of 100 square feet Mr. J. Cypher was well first with an arrangement in which a variety of choice plants, interspersed among virgin cork, accompanied by a plentiful use of fresh moss, were all seen to advantage. Mr. Ralph Crossling, Penarth, had an assortment of well-grown plants lightly arranged, but this and the third prize group, shown by Messrs. Case Bros., Cardiff, were lacking in originality. With a group to occupy a space of 50 square feet, the first prize for which was £5 and the Veitch Memorial bronze medal, three local gardeners competed, all making highly creditable displays. Mr. W. Carpenter, gardener to W. J. Buckley, Esq., Llandaff, was first; Mr. J. Howe, gardener to G. Rutherford, Esq., second; and Mr. H. A. Joy, gardener to R. A. Bowring, Esq., third. For a still smaller group Mr. H. Rex, gardener to C. Waldron, Esq., was first; Mr. W. Carpenter second; and Mr. J. Anvaldo third, all doing well. The best group of tuberous Begonias was shown by Mr. J. Vickery, gardener to W. Green, Esq.; the second prize going to Mr. E. Parsons.

Only local men competed in the classes for stove and greenhouse plants; but they made a good display, and some of the plants would have won prizes in any competition. Mr. J. Lockyer, gardener to J. C. Hanbury, Esq., Pontypool Park, was easily first for six flowering plants, showing well flowered specimens of Bougainvillea Sanderiana, Anthurium Scherzerianum, Statice profusa, Gloriosa profusa, Ixora Williamsi, and Phcenocoma prolifera Barnesi. Mr. A. T. Robinson, Cardiff, was second, and Mr. W. Carpenter third. A grand specimen of Clerodendron Balfourianum gained Mr. Lockyer the first prize for a single plant, and also a silver cup offered for the best stove and greenhouse plant in flower in the show. Mr. Anvaldo had a second prize for Allamanda Hendersoni in good condition. Fine-foliaged plants were shown creditably by Mr. W. Carpenter, who had a first for six specimens, consisting of Thrinax elegans, Kentia Forsteriana, Cycas revoluta, and Crotons Weismanni, Queen Victoria, and Warreni. The best collection of exotic Ferns was also shown by Mr. W. Carpenter, the second prize going to Mr. Malpas, gardener to J. Lynn Thomas, Esq., Penylan. In the class for twelve tuberous Begonias in pots, Mr. B. R. Davis, Yeovil, was easily first, showing remarkably fine double flowering varieties in excellent condition. Mr. T. Malpas was a creditable second. Zonal Pelargoniums, Fuchsias, Gloxinias, and table plants were all well represented.

CUT FLOWERS.

It is in this section that Cardiff more than holds its own with other societies. One large tent was devoted to competitive exhibits, with smaller ones well filled by non-competitive displays. Four nurserymen competed in the class for a collection of Roses arranged for effect on a space 6 feet by 3 feet, Mr. J. Mattock winning the first prize with an admirable display. Mr. Ralph Crossling also did well, and was second. With twelve Roses,

triplets, there were six competitors, but Messrs. Townsend & Sons, Worcester, were well first, showing grand blooms. Messrs. G. Cooling and Sons, Bath, were a good second. The same number of growers competed with twenty-four distinct varieties, the first prize going to Messrs. Townsend & Sons, and the second to Mr. Stephen Treseder, Cardiff. Messrs. Townsend & Sons were again first with twelve varieties of Teas, triplets. Mr. A. Hill Gray, Bath, was second, four others competing. For eighteen varieties of Teas, single trusses, Mr. J. Mattock was well first. Very fine indeed were the twelve blooms of Horace Vernet which gained Messrs. Townsend & Sons the prize for a single Hybrid Perpetual variety, while Mr. J. Mattock was first in a corresponding class for Tea Roses with magnificent blooms of Comtesse de Nadaillac. Carnations, Picotees, hardy flowers, and stove and greenhouse were all shown admirably in the various classes provided for them.

Hand bouquets are invariably of a high class at Cardiff, and this occasion was no exception to the rule. For a bride's bouquet Messrs. Perkins & Sons, Coventry, were first, Messrs. Case Bros. second, and Mr. A. E. Price third, and for a coloured bouquet Messrs. Case Bros. succeeded in beating his formidable rivals, the second prize going to Mr. A. E. Price, and the third to Messrs. Perkins & Sons. A fine show was



FIG. 14.—MECONOPSIS WALLICHI.

also made by memorial wreaths and crosses. The wreaths were not to exceed 30 inches in width, and the crosses not to exceed 36 inches in length, outside measurement. For a wreath Messrs. Case Bros. were first, Mr. A. E. Price second, and Mr. W. Treseder third, and for a cross Mr. W. Treseder was first, Messrs. Case Bros. second, and Mr. A. E. Price third. Local florists and amateurs also distinguished themselves in dinner table decorating.

FRUIT AND VEGETABLES.

Only two collections of six dishes of fruit were shown, Mr. R. Grindrod, gardener to G. F. Watts, Esq., Hereford, winning the first prize easily with good Black Hamburg Grapes, Hero of Lockinge Melon, Barrington Peaches, Brown Turkey Figs, Lord Napier Nectarines, and Waterloo Strawberries. Mr. H. Pitt, Abergavenny, was second. Three growers staged six bunches of Grapes in three varieties, the first prize going to Mr. H. Hollingworth, gardener to Miss Talbot, Margam, for fine well ripened bunches of Black Hamburg, Muscat of Alexandria, and Foster's Seedling. Mr. R. Grindrod was a good second. The best black Grapes were shown by Mr. Hollingworth, who staged large, well finished clusters of Black Hamburg; Mr. R. Grindrod was second with the same variety. In the class for white Grapes Mr. J. Howe, gardener to G. Rutherford, Esq., exhibited large fairly well ripened bunches of Muscat of Alexandria, second Mr. H. Pitt, with the same variety. In the foregoing and also the single bunch classes, the competition was good. A grand bunch of Black Hamburg and another of Muscat of Alexandria gained Mr. H. A. Joy first prize, Mr. G. F. Bates and Mr. Hollingworth also winning prizes in these classes.

Melons were shown. Mr. J. E. Davies, gardener to Lord Aberdare, Mr. W. Carpenter, and Mr. H. Pitt being the most successful exhibitors. A good pair of Queens won Mr. Pitt the first prize in the class for Pine Apples, the second prize going to Mr. W. Carpenter. Mr. Hollingworth showed the best Peaches, and Mr. Pitt was first for Nectarines. Small fruits were fairly plentiful and good.

Vegetables were not so numerous as when the exhibition was held later, and the quality was also second rate in some cases. With a collection of nine varieties Mr. T. Wilkins, gardener to Lady Iver Guest,

Inwood, was easily first, the second prize going to Mr. G. Shewring, Llandaff, and the third to Mr. H. Pitt. Mr. Wilkins also took the lead in classes, the prizes for which were provided by Messrs. Sutton & Sons, and Webb & Sons. The best Cucumbers, a handsome brace of Cardiff Castle, were shown by Mr. J. Howe; second Mr. H. Pitt. There were also classes provided for all other popular vegetables.

NURSERYMEN'S EXHIBITS.

As previously intimated, non-competitive exhibits were unusually numerous, several well-known nurserymen exhibiting plants and cut flowers on a large scale. Foremost amongst these were Messrs. Sutton and Sons, who had a grand display of tuberous Begonias, the varieties both double and single being of great merit, and the plants well grown; Gloxinias representing a good strain, and showing what can be done in ten months from sowing seed. Celosias, Palms, and other plants. Mr. W. Treseder, Cardiff, arranged in an artistic manner a fine display of Cactus Dahlias, Roses, and hardy herbaceous flowers, these occupying the side of one tent. Messrs. Dobbie & Co., Rothesay, well sustained their reputation for Sweet Peas, Pansies, herbaceous plants, and Pelargoniums, and Mr. H. Eckford, Wem, also had a fine collection of Sweet Peas in bunches. Messrs. Garaway & Co., Bristol, arranged a large group of well-grown stove and greenhouse plants.

Messrs. Barr & Sons made a most imposing display of hardy herbaceous flowers, and Mr. W. J. Godfrey, Exmouth, showed a long bench of Carnations, Cannas, Sweet Peas, Phloxes, and numerous other flowers. Mr. B. R. Davis, Yeovil, staged a good assortment of double and single tuberous Begonias, while Messrs. Case Bros., Cardiff, arranged an effective display of choice cut flowers. Mr. A. W. P. Pike, Cardiff, exhibited a large number of superior Carnations in pots. Garden furniture, by several local tradesmen, on a large scale, and the Newport Pottery Co. had an imposing exhibit of vases, original in design and otherwise, flower pots, and pans.

ASHTEAD.—JULY 21ST.

FEW shows anywhere have a more delightful habitation than has the small one held annually in Ashted Park, Epsom, the residence of Pantia Ralli, Esq., for the park and grounds are of the most beautiful description, and form a powerful attraction of themselves. These are thrown open to visitors, and when in the evening dancing takes place on the extensive lawn near the mansion, the scene is a very lively one.

Mr. G. Hunt, Mr. Ralli's gardener, always sets up at the Show a fine group of plants, and on this occasion was nowise behind with a very effective arrangement. Foliage plants, including noble Palms and Ferns, were in great variety, and flowering plants in abundance. A special feature of attraction was a handsome flowering plant of *Acalypha Sanderi*. In another tent were fine cut Roses and other flowers, and a remarkable fruit trophy that included practically every description of ripe fruit grown, and all of great excellence. This trophy was as much a marvel of patient skill as of pomological excellence.

There were also capital groups of decorative plants from Mr. F. Goldsmith, gardener to the Rev. F. G. Lucas; Mr. Goldsmith, gardener to G. Eadams, Esq.; and Mr. Corbett, gardener to Mrs. Denshire. Mr. Will Taylor, Hampton, sent some good cut Roses, as also did Mr. J. May of Ashted, who also had Carnations. There were two boxes of lovely Tea Roses sent by Mr. C. J. Grahame from Wrydelands, Leatherhead, amongst which Muriel Grahame, Maman Cochet, Comtesse de Nadaillac, Ethel Brownlow, Madame de Watteville, and Innocente Pirola were beautiful.

The table decorations, judged by ladies, were lighter and more pleasing than used to be the case. The first prize was awarded to a simple arrangement in several stands of pink and earmine Sweet Peas; but the soft hues of the flowers were killed by the addition of florid rose coloured ribbons and other fantastic drapery. The second prize went to a dressing of pink Carnations and Tea Roses dressed with *Asparagus plumosus* and *Smilax* on the cloth. A very bright, pleasing arrangement had fresher *Smilax* on the table, and the flowers—again Sweet Peas solely—had some brighter, though not conflicting colours. The drapery seemed to influence the ladies' decisions.

The cottagers' exhibits generally were excellent. A dish of Snowdrop White Kidney Potatoes could hardly have been excelled anywhere. There were also capital Carrots, very fine winter and spring Onions, excellent Peas, and Longpod Beans, the dark green close-fitting pods being much the best, and far superior to the huge pale-podded Seattles. Cabbages, as is so generally the case, were too large. Fruit, such as Gooseberries and Red and Black Currants, were very fine, some dishes of the Black Baldwin could not have been excelled. There were nine trays of six vegetables exhibited from the boys' school gardens, the best one having remarkably good produce, consisting of Kidney Potatoes, fine Onions, good Cabbages, white Turnips, Longpod Beans, and excellent Lettuces. There was a large attendance in the evening, and when the prizes were distributed and short addresses given probably 500 persons were gathered round the table.

PRESCOT.—JULY 21ST.

ON Thursday last the fourteenth annual Exhibition was held, by the kind permission of the Right Hon. the Earl of Derby, K.G., G.C.B., in Knowsley Park. The weather was perfect, all business in the old town suspended, a capital gate, and financial success was assured. No little part of all this was assured by the affable and courteous Secretary, Mr. Case. Mr. Norris Mercer marshalled his Committee as a President ought to do, and they did their level best in the various offices allotted to them. The exhibits were numerous and of splendid quality, the vegetables staged by

the cottagers ranking with anything seen in the kingdom. The stove and greenhouse plants were particularly fine.

The fourteen dozen cut Roses—not for competition—staged by Messrs. Alexander Dickson & Sons, Royal Nurseries, Newtownards, Co. Down, came upon visitors quite as a sensation, nothing like the quality ever having been seen in Lancashire. The firm's new seedlings were greatly admired—a new H.P. climbing Rose, named Ard's Rover, with vigorous growths 10 or 12 feet long, the flowers as large and perfect, and colour of exact shade of Général Jacqueminot, and borne in clusters, making it a great attraction. A first-class certificate was immediately granted, and a special certificate, which is the highest award ever given by the Society, was unanimously granted for the collection of Roses. A similar award was made for thirty stands of charming Sweet Peas, also for forty varieties of herbaceous plants.

Messrs. R. P. Ker & Sons, Aigburth Nursery, Liverpool, staged a fine assortment of stove and greenhouse plants, all denoting the excellent culture carried out by the firm. The Sweet Peas, Dahlias, and Carnation blooms staged by Mr. C. A. Young, Floral Nursery, West Derby, Liverpool, were voted a great success. Messrs. Dicksons, Ltd., Chester, as in former years, were well represented by a table of herbaceous plants and cut Roses, the whole making a display worthy of the firm's reputation. Mr. Henry Middlehurst had Sweet Peas. Certificates were granted to all the above firms.

For six stove and greenhouse plants, three in flower, the first prize went to Mr. J. Bracegirdle, gardener to W. H. Watts, Esq., Elm Hall, Wavertree, with a large *Kentia*, *Crotons* Queen Victoria and *Disraeli*, a magnificent specimen of *Bougainvillea Sanderiana*, *Allamanda Williamsi*, and *Kalosanthes coccinea*. Mr. R. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby, was a close second, his *Crotons*, *Ixora coccinea* superba, and *Clerodendron Balfourianum* being superb. Mr. H. McFall, gardener to E. C. Leventon, Esq., Oakfield, Roby, was third. Mr. Bracegirdle also won with four Ferns, four greenhouse plants in flower, three *Fuchsias*, and one *Fuchsia*, also with a tastefully arranged group of plants. In the second prize group arranged by Mr. William Lyon, gardener to A. M. Smith, Esq., Bolton Hey, Roby, were noticed four huge plants of *Oncidium Lanceanum* in rude health and superbly flowered. A well-flowered *Ixora coccinea* superba gained Mr. Pinnington the first prize for a single stove plant, and he was also a good second in Ferns. Mr. Barnes, gardener to J. C. Gamble, Esq., Haresfinch, St. Helens, won with *Gloxinias* and *Begonias*, Mr. McFall with *Cockscombs*, Mr. Humphreys, gardener to E. S. Eccles, Esq., Huyton, with model garden and single *Begonia*, and Mr. J. George, Huyton, with *Coleus*.

Roses were not specially good, Mr. P. Greene, gardener to Thos. Gee, Esq., Allerton, winning with eighteen, also with herbaceous cut flowers. The classes for twelve and six Roses fell to Mr. James Parr, gardener to Mrs. Evans, Knowsley Park, Prescot. Prizes for Carnations and Dahlias went to Messrs. N. Mereer and J. Brown.

Fruit was excellent, Mr. W. Oldham, gardener to Joseph Beecham, Esq., winning the classes for four dishes of fruit, two bunches Black Hamburg, two white (Muscat of Alexandria excluded) with handsome Buckland Sweetwater, two Madresfield Court. Mr. J. Rose, gardener to J. Atherton, Esq., Singleton House, Huyton, won with Muscats, and taking seconds in each position in the above. Mr. Oldham won all the Currant classes. Mr. T. Eaton, gardener to J. Parrington, Esq., Roby Mount, Roby, was second with four dishes of fruit, first with Cherries; also with the finest dish of Latest of All Strawberry we remember seeing. Mr. T. Carling, gardener to Mrs. Cope, Woolton, succeeded in taking classes for six Peaches and green-fleshed Melon, also with splendid three dishes of Tomatoes. The classes for culinary and dessert Apples ought to be discontinued at once, being entirely out of character, and forming no feature to the Show. Vegetables were excellent, but space will not permit of names being given.

THE YOUNG GARDENERS' DOMAIN.

CULTURE OF PEACHES AND NECTARINES.

AS the treatment of these luscious fruits is identical, endeavour will be made in the following articles to give rules on their culture, which it is hoped may be of service to readers of the "Domain."

By a judicious selection of varieties the season of the Peach may be made to last from the middle of April until well on in October. In order to have ripe fruit by the earliest mentioned time the house must be started by the middle of November. Previous to doing this the glass and woodwork should have been thoroughly cleansed. The trees must receive a dressing of Gishurst compound, used as directed. In performing this operation draw the brush towards the points of the shoots, as a preventive against rubbing off the buds. The border must also be looked to, clearing off the surface soil to the roots. If at all dry afford a good watering, then add a top-dressing of fresh loam, in which a small proportion of old mortar rubble has been mixed. The trees may then be trained to their quarters, and all is ready for the next season's work. A few days previous to starting the house the outside border should receive protection by means of a thickness of litter, over which is placed some shutters, or hard material, to ward off heavy cold rains. This protection must be removed in the spring of the following year.

STARTING.—For the first fortnight a temperature of 40° to 45° by night, and 45° to 50° by day, will be sufficient, afterwards raising it 5°. This should not be exceeded, or too much fire heat be afforded, or the wood buds may start into growth before the flower buds. This will be to the detriment of the latter, consequently is an evil to be guarded against.

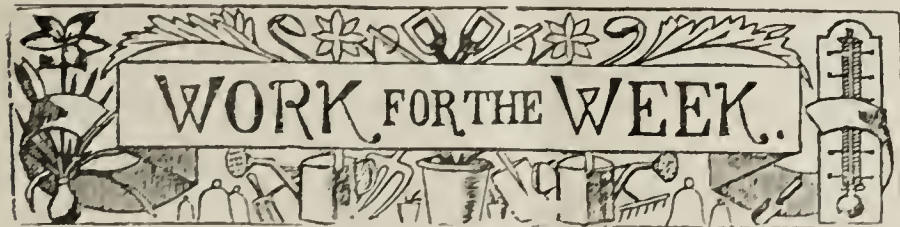
On bright days the trees derive benefit from a gentle syringing, affording this sufficiently early that all may be dry before night. As soon as the flower buds begin showing colour this syringing must cease. As the flowers open maintain a temperature of 55° by night and 60° by day, admitting air on all favourable occasions, closing the house early in order that all possible sun heat may be stored up, this acting as a preventive against unduly heating the pipes.

SETTING.—To insure a good set of fruit, the atmosphere of the house must be kept drier, and more air admitted. The blooms should be gone over at midday with a camel's-hair brush or rabbit's tail, as a means of distributing the pollen. It will be found some varieties are shy at producing this, and it is best in such cases to take the pollen from varieties freely producing it and apply it to the shy ones.

DISBUDDING.—This is a very important item in Peach culture; it consists in removing all the buds with the exception of those intended for fruiting next year. Generally speaking, it is performed at three different operations; the first when the buds are very small, removing half or more at intervals along the growth; the second about a fortnight afterwards, removing half of the remainder; and the third about a week after that time, pinching those that remain to an eye or so, with the exception of the basal bud, which must not be stopped in any case, as this growth produces fruit the following year. At the third operation the growths will be attaining fair size, and it is the safer to pinch them than to rub the growth off, as in doing so the fruit-bearing wood may receive injury.

WATERING.—No hard-and-fast rule can be laid down for this, much depending on the nature of the soil, which can only be learnt by careful observation. It is not good practice to let the border get thoroughly dry at any time, bud-easting being one of the evils accruing from this. As a rule, if the border receives a thorough watering on the house being started it should suffice until the fruits are set, then another one to last over the stoning period, and from this on to the time when ripening commences at intervals of about three weeks. Manure may be advantageously applied at all waterings, especially after stoning has taken place and the fruits are on their second swelling. A dressing of lime to the borders, watering it in, will be found very beneficial. After the crop is gathered do not let the trees suffer for water, but continue to give thorough soakings until the fall of the leaf, these at intervals as may be deemed necessary.—SEMPER.

(To be continued.)



FRUIT FORCING.

Vines.—*In Pots for Early Forcing.*—The canes for starting in November to ripen Grapes in March or April ought now to have the wood thoroughly ripe and the buds plump. If not, keep the house rather warmer by day, 80° to 85°, closing so as to raise the temperature to 90° or 95°, and throw the house open at night. The foliage must be well exposed to light, and as near the glass as possible without touching. Supply water or liquid manure in the case of Vines not inclined to luxuriate in sufficient quantity to prevent the foliage becoming limp, but do not give it until the soil is getting dry.

Lateral growths must be kept in check, leaving no more than are absolutely necessary to appropriate the sap excess, and so prevent the principal eyes from starting. When sufficiently ripened, as they are when the wood becomes brown and hard and the buds prominent, they should be removed to a position outdoors in the full sun, standing on boards or slates in front of a south wall, fence, or building, securing the canes to the face of the wall, only giving water to prevent the leaves falling prematurely. In this position they will rest, even if the leaves are not actually shed, provided they are not kept too moist. When the leaves turn yellow commence reducing the laterals, and when the leaves have fallen, prune, cutting the laterals close to the cane, but without injury to the buds, and cut the cane back to the required length, or from 6 to 8 feet. Dress all the cuts, and only those parts carefully with patent knotting. The Vines should then be placed in any cool, airy, dry place until required for forcing. Dryness at the roots is desirable, but the soil must not be allowed to become dust dry, and the pots should be protected from frost by some dry material placed round and over them. It will not of course be necessary if frost has not access to the structure.

Earliest Houses.—A dry atmosphere promotes ripening of the wood and maturing of the buds. Laterals must be kept stopped, the house cool, and the soil moderately dry. Inside borders, however, may require watering, in order to prevent the soil cracking, and to keep the roots healthy. In all cases there must be sufficient moisture in the border to maintain growth in the laterals and prevent the premature ripening of the foliage. A moderate extension will suffice to keep the principal buds from being started.

Where the Vines are in an unsatisfactory condition preparation should be made for lifting, getting fresh loam and clean drainage, so that the work can be done quickly when begun. One part of the border only ought to be operated upon at a time, the inside one year and the outside the next, so as to prevent loss of crop. The roots should be lifted and laid in fresh compost nearer the surface whilst there is foliage on the

Vines, therefore the work in this case ought not to be delayed beyond the early part of September in the case of Vines that are started early in December. The Vines will need pruning by the middle of September, or when lifted a little later.

Houses Required for Early Forcing.—Vines that have not been started early will need, as soon as the crop is off, to be thoroughly syringed to cleanse them from dust and insects, and if there is any doubt about the ripeness of the wood it will be necessary to keep the house rather close by day, but with sufficient ventilation to cause evaporation and allow the moisture to escape. Give no more water to the border than will prevent the foliage becoming limp. If the weather prove cold and wet employ fire heat in the daytime, to maintain a temperature of 70° to 75°, with moderate ventilation, and turn the heat off at night to allow the pipes to cool, increasing the ventilation so as to induce a thorough draught, and this will soon cause the wood to harden and the buds to plump, insuring rest, which, for Vines to be started in December, should be complete from the middle to the end of September. When the wood is ripe ventilate fully day and night.

Vines Cleared of Crops.—Through Grapes hanging the Vines often become infested with red spider, and by growing plants in the house they are attacked by scale and mealy bug, the dry atmosphere also encouraging thrips. Thoroughly cleanse the Vines. One of the best means is to spray them by means of an atomiser with methylated spirit. The slightest amount suffices to annihilate the pests named, operating in the evening or on a dull day with some air on. Vaporisation with nicotine essence also answers well, operating on two or three consecutive evenings, and repeating in a week or ten days. Forceful syringings will free the Vines from dust and many pests. Keep the laterals fairly in hand, not closely pinched, unless the Vines are very vigorous and not ripening the wood kindly, when keeping the house rather dry at night, with all the ventilation possible, and somewhat close and warm by day, will promote the maturing of the wood and buds. In stopping vigorous Vines regard must be had to the principal buds, for when all growth is removed as made it may cause them to start, which must be avoided by allowing a little lateral growth, and keeping the soil dry at their roots to the extent of causing the foliage to become a little limp. Weakly Vines should be fed with liquid manure and the Vines allowed to extend, but whatever extension is permitted the extraneous foliage must not in any way interfere with the free access of light and air to the principal leaves, which must be kept healthy and thus appropriate some of the food, and store it in the buds and adjacent wood. Free ventilation will be necessary day and night.

Grapes Ripening.—Whilst colouring many Grapes swell considerably, therefore do not allow any deficiency of moisture in the border. Give if necessary a good supply of water or liquid manure, and in the early part of the day, so that superfluous moisture may escape before night. Heavily cropped Vines should be allowed plenty of time, and supplied with liquid manure, which, if it does not help the current crop, will prevent the exhaustion of the Vines. A good rest at night in a temperature of 60° to 65° with air is a great aid to Vines taxed to the utmost by weight of Grapes. A moderate amount of air moisture also is essential to the health of the Vines, sprinkling the paths and borders occasionally, and if possible allow the laterals to extend, but full or over-cropped Vines can rarely cater for more than the principal leaves and Grapes. Admit air constantly, enough with a gentle heat in the pipes to insure a circulation, and maintain a temperature by day of 70° to 75°, keeping through the day at 80° to 85°, or 90° with sun, and full ventilation.

THE KITCHEN GARDEN.

Broccoli and Winter Greens.—The drought has delayed planting, and as a consequence large numbers of Broccoli plants have been left standing thickly in seed beds, where they have become decidedly leggy. Another result of the drought is the early maturation of the crops of early and second early Potatoes, so that these can be dug at once and good breadths of ground be liberated for Broccoli and Winter Greens. If the weather still keeps hot and dry the planting of Broccoli and Winter Greens, including Brussels Sprouts and Borecole, ought yet to be proceeded with, or the best part of the growing season will be missed. Before drawing plants from seed beds, or lifting with a trowel from nursery beds, give the ground about them a thorough soaking with water. For dwarf plants open shallow drills 2 feet to 3 feet apart, and water these prior to planting, as it is not possible to plant properly on dry lumpy ground. Instead of sinking long-stemmed plants deeply into holes formed with a dibbler, the better plan is to lay them in sloping trenches opened with a spade, just leaving the head clear of the soil. Distribute a little fine soil over the roots, making it firm, but give a thorough soaking of water before levelling the ground and opening the next trench.

Cabbage.—Most districts have their own time for sowing seed of Cabbage, and have their popular varieties also. If we have a showery time soon, then thanks to the warmth in the ground the seed will germinate quickly and the plants grow rapidly, proving early enough for most localities. There ought, however, to be no undue delay in sowing, especially in the later colder districts, the first week in August answering well for warm soils and early localities. Broadcast sowing is preferable to distributing the seed in drills, but stirring it in with a rake is not the best plan. Make the ground fine and level, water freely through a coarse rose soon after sowing the seed thinly and evenly, and cover lightly with sifted soil, not watering again. If a first sowing fail from any cause sow more seed at once, and a second sowing is also advisable in any case, the plants from this sometimes proving more reliable than those raised earlier.

Celery.—Plants, whether in beds or trenches, soon suck up what moisture there may be in the soil or manure, and unless water or well-diluted liquid manure is freely applied they are liable to receive a severe check. It cannot be too often stated that it is unwise to long delay moving Celery plants from nursery beds and boxes, much-drawn plants flagging and starting badly whenever moved. Sturdy plants may be transplanted safely in the hottest weather, always provided they have a good preparatory soaking of water at the roots, and are moved with a ball of soil about the roots. After they are planted, lightly shading with branches of trees is of assistance. At this time of year always apply water or liquid manure (soot washed in answers well) before commencing to mould up the plants.

Garlic and Shallots.—These are maturing early, and in some cases prematurely. Not till the tops die down and the roots come away freely from the soil should they be removed from where grown; nor will they keep well if left undisturbed long after they are sufficiently matured for removal. The harvesting should be completed on boards or wattled hurdles, this more especially if wet weather sets in. Treat underground Onions similarly to Garlic and Shallots.

Leeks.—It is time the main crop of these was got in. Extra fine samples may be grown in trenches prepared as for Celery, but Leeks good enough for ordinary purposes may be grown with far less trouble. Owing to their extreme hardness the plants may be placed in an exposed position, succeeding well on wide borders with an easterly or northern aspect. The ground in any case should be freely manured and deeply dug, all lumps of soil being broken up during the process of digging. Strong plants are needed, and these recover more quickly from the check of moving if the larger leaves are shortened somewhat. Form deep holes with a stout dibbler 12 inches apart, or less, in lines 15 inches apart, dropping a plant into each, so that the tops of the trimmed leaves just show out. Do not close the holes, but fix the roots by watering only. A second watering may be desirable if the weather keep hot and dry, and all the further trouble needed is to keep the ground free of weeds. The plants will thicken and fill the holes, and when dug will be found ready blanching.

Potatoes.—On poor hot soils Potatoes are "giving out" badly. The late varieties may rally after getting a soaking rain, but on good as well as poor soils the early and second early sorts are ripening off rapidly, and in all probability a wet time would do these more harm than good. When the haulm is fast changing from green to yellow, and falling about the rows, the crops are sufficiently matured for lifting and storing. Left, as they now are, a soaking rain or a few showery days might lead to a bad attack of disease, or, if the haulm rallied, the formation of a second crop would be the consequence. Both are evils that may and should be prevented, either by lifting and storing the crop, or by the timely removal of the haulm. Lifting the crop affords an early opportunity for planting a successional crop, such as Winter Spinach, Late Carrots, Broccoli, and Winter Greens, Endive and Lettuce, but if the crop of Potatoes are well soiled over they will keep better in the ground than out of it.

THE BEE-KEEPER.

HONEY FROM LIMES.

NEXT in importance to the white Clover for honey production may be mentioned the Lime tree so common in many parts of the country. Within half a mile of our apiary there are hundreds of large trees, and during the time they are in bloom a rich harvest of honey is obtained. It is of exquisite flavour, and in colour a bright amber. If bottled in white glass jars it looks remarkably well, and for this reason is much appreciated by retailers.

The Limes are quite a fortnight later than usual in flowering this season. Who has not admired the numerous trusses of bright yellow sweet scented flowers that hang from a well developed Lime tree? The flowers hanging as they do under the branches is a decided advantage to the bees, as during heavy showers of rain the nectar contained in them is not damaged, as is the case in the majority of honey-producing flowers whose petals are dashed to the ground by the first heavy rain that comes. The bees are thus able to continue operations directly a shower is over.

Lime trees do not bloom in a young state, and it is necessary for them to become large before honey can be expected. They, however, grow at a rapid rate when once they become established.

Owing to the cold weather that prevailed throughout May and the early part of June White Clover is also late flowering, and the sheep pastures are now a mass of bloom, but if the present dry weather continues it will soon be over. We prefer honey obtained from the above sources to any other, as when combined it is pale amber coloured, and does not granulate as rapidly as White Clover honey does, and it has the advantage of being of exquisite flavour.

WHEN TO EXTRACT HONEY.

One of the most important operations in connection with bee-keeping, and obtaining honey that will not ferment and will not lose its flavour, no matter how long it is kept, is the time and manner in

which it is extracted. The work of extracting should always be done during early morning, before the bees have had time to bring in any fresh supplies.

The combs should be partly sealed over. It is not necessary for them to be sealed to the bottom of the frame, as the honey would be quite ripe by the time it has reached that stage. If shallow frames are used one tier may be placed underneath the other, and they being of less depth than the standard or similar frame generally used, they would be better if fully sealed over. The reason why early morning is preferred for removing a surplus of run honey from the hive is because it will be thoroughly ripe at that time if the combs are in the above condition.

If extracting is done in the evening after the bees have been at work all day, the newly collected honey will be extracted along with the other, thus causing the whole to ferment.

The honey, after being collected, is placed in the cells; this goes through a process of ripening during the night by the bees. It will thus be seen that the bulk of the honey in the surplus chamber has been going through a ripening process in a high temperature in the hive for several days and nights, and is then in prime condition for storing or other purposes.

How often one hears complaints of honey fermenting, and bee-keepers inquiring why their honey will not keep. In nearly every instance it may be traced to the honey being extracted in an unripe state. When in this condition it is thin, and will not granulate readily.

If extracting is carried out on the above lines unripe honey will be a thing of the past. If it is not convenient to carry out this operation during early morning a dull day may be chosen for that purpose when the bees are unable to gather stores, but they are inclined to be troublesome at such times.—AN ENGLISH BEE-KEEPER.



All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," **8. Rose Hill Road, Wandsworth, S.W.**, and **NOT** to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Orange Spots on Pear Leaves (C. C. E.).—The very beautiful orange coloured spots on the leaves are caused by the Medlar rust fungus (*Stigmata Mespili*), which, by its mycelial hyphae in the tissues, abstracts the chlorophyll and nutrient matter, the spots ultimately turning brown or black, and the affected part falls away, forming holes or leaving the tissues as if skeletonised. In time the spots coalesce, and the leaves turn brown and fall off. The treatment with sulphide of potassium (liver of sulphur) appears to have proved worse than the disease. Perhaps it has been used too strong for the Pear, but not for the fungus, which has not been destroyed, or only in part, though the spots have been arrested through the destruction of the food upon which the parasite exists. The liver of sulphur should not be used stronger on Pears than 1 oz to 10 gallons of soft water, and soap not added as commonly advised, but used in the clear milk-like state by a spraying apparatus, and so as not to run or drip from the leaves. Then the sulphide solution will sink into the tissues affected, and either arrest the progress of the parasite or destroy it, repeating occasionally. All the fallen leaves should be collected and burnt, and the trees sprayed in winter when dry and quite dormant with a 2½ per cent. simple solution of sulphate of copper.

Chlorophytum elatum variegatum (H. P.).—This plant can be increased in three ways—namely, by seeds, suckers, or division of the roots. The latter is the best method to pursue, carrying out the work during the spring, and starting the plants in heat. The stock plants should be kept in a greenhouse throughout the winter months. It is more commonly known as *Anthericum variegatum*, and is largely used in the London parks as an edging for large beds and borders.

Injured Grapes (S. L. and Duncan).—We can only say the berries are "scalded," and refer you to the article on page 19 of the 14th inst., also to page 63 of the present issue of the *Journal of Horticulture*, regretting very much the unfortunate condition of the Grapes. The affection is difficult to prevent in the case of Vines deeply rooted in a wet, poor, subsoil, and which make abnormally long jointed succulent growth, but the evil may be mitigated by appropriate night temperatures and early morning ventilation.

Greenish Patch and Streaks on Tomato (P. M.).—The cause of this is defective transformation of the juices and tissues at the time of ripening into the characteristic colour. This has been attributed to reversion by the plant itself to original green veined forms and to cross-fertilisation; but it mainly arises from excessive feeding, or not sufficient elaboration of the nutrient elements during the growth of the fruit. This implies over-stimulation, or not sufficient warmth and ventilation during the development. We have found the most benefit to accrue from free ventilation and a gentle warmth in the pipes, with a judicious use of potash manures or fishmeal mixed with an equal amount of double sulphate of potash and magnesia, using a small handful per square yard occasionally, and watering with a weak solution of nitrate of soda, or a quarter of an ounce to a gallon of water. Silico-fluoride of ammonium is not, so far as we know, in commerce; but a letter to Mr. Mills, 14, Westbourne Road, Forest Hill, S.E., would, perhaps, secure a small quantity for experimental purposes, beyond which, so far as we know, the use of it has not gone.

Nectarines Discoloured and Shrunken at the Apex (D. M. L.).—There does not appear to be any organic disease, the mould being such as usually accompanies decay, and may have appeared since the fruits were packed. Beyond being an eyesore the Nectarines are not prejudiced for use, and are excellent in quality or flavour. The shrinking at the apex, and consequent discoloration, has been imputed to the deficiency of nourishment during the swelling period, but we have found that it mainly arises from the trees being kept in an atmosphere too surcharged with moisture at that time, and at the ripening state subjected to a much drier and freer ventilation, which results in excessive evaporation from the part most recently made, and with the thinnest cuticle. In no other way have we been able to account for the defect. It has occurred most frequently with us when the weather has been dull for some days, and the house but little ventilated, then on a recurrence of bright weather the ventilators not having been opened soon enough in the morning, so that moisture has condensed on the fruit, and the rapid evaporation caused by opening the house has resulted in a sort of scald, followed by the shrinking and discoloration. The preventive is to give more air right along, and not employ too much moisture or reduce it too suddenly at the ripening stage.

Onion Leaves Diseased (W. T., Ireland).—The leaves are infested by the Onion mildew, caused by the fungus named *Peronospora Schleideniana*. The habit of the parasite is to grow, by its mycelial hyphæ, within the leaves and stems, which is fatal to the growth of the host plant, for the mycelium not only causes putrefaction of the inner cells of the leaf and stem by contact, but the fertile hyphæ or outgrowths choke up the organs of transpiration, and prevent the evaporation of water in the form of vapour from the attacked part. Thus the diseased plants have a watery appearance at first, then the parts become discoloured, and ultimately dry up, a whitish-grey semi-transparent bloom appearing on the surface, and in bad cases the Onions are left as one offensive mass of putrescence. We have found the best results to follow after deep trenching or taking the Onion crop after Celery, and in the early stages, or when the Onions are about 6 inches high, dusting them with a fungicide, such as anti-blight, anti-mildew, or fostite, applying very lightly, and repeating occasionally. In the case of actual attack we have not found anything equal to freshly burned lime ground to a fine powder and dusted on the leaves, applying it by means of an old worsted stocking or a sulphur duster. Failing means of grinding use air-slaked lime, or that slaked with the smallest quantity of water necessary to cause it to fall into a fine apparently dry powder. This we have proved far better than poisonous preparations in case of attacks, both for this and Lettuce mildew, also for Spinach mildew, these pests not bearing the causticity of the lime, and this profits the land and plants directly as well as indirectly. Remove all the damaged parts and burn them, then have recourse to the lime.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (C. D., Kent).—*Meconopsis Wallichii*, the blue Himalayan Poppy. See page 72 for illustration and cultural notes.

(M. G.).—1, *Lysimachia vulgare*; 2, *Inula Helenium*; 3, *Spiræa Billardi*; 4, *Thalictrum aquilegifolium*; 5, *Bocconia cordata*. (P. S.).—A good form of *Lælia elegans*. (D. E.).—*Phlomis fruticosa*, commonly known as Jerusalem Sage. (E. S. R.).—Through being fully ripe when packed, the fruits arrived almost in a state of pulp. If the flowers are large the variety is probably Lord Napier. (A. L. K.).—The specimens can only be named by comparison in a large collection. (S. R. M.).—1, *Campanula turbinata*; 2, *Geranium nodosum*; 3, *Saxifraga pyramidalis*; 4, *Linaria bipartita*; 5, *Corydalis lutea*; 6, *Osmunda gracilis*.

COVENT GARDEN MARKET.—JULY 27TH.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve ...	0 0	to 0 0	Grapes, lb. ...	1 6	to 3 0
Cobs ...	0 0	0 0	Lemons, case ...	11 0	14 0
Filberts, 100 lbs. ...	0 0	0 0	St. Michael's Pines, each	2 6	5 0
Gooseberries, $\frac{1}{2}$ sieve ...	1 6	2 0	Strawberries ...	1 6	3 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0 0	to 0 0	Mustard and Cress, punnet	0 2	to 0 4
Beans, $\frac{1}{2}$ sieve ...	0 0	0 0	Onions, bushel ...	3 6	4 0
Beet, Red, doz. ...	1 0	0 0	Parsley, doz. bnchs. ...	2 0	3 0
Carrots, bunch ...	0 3	0 4	Parsnips, doz. ...	1 0	0 0
Cauliflowers, doz. ...	2 0	3 0	Potatoes, cwt. ...	2 0	4 0
Celery, bundle ...	1 0	0 0	Salsafy, bundle ...	1 0	0 0
Coleworts, doz. bnchs. ...	2 0	4 0	Scorzonera, bundle ...	1 6	0 0
Cucumbers ...	0 4	0 8	Seakale, basket ...	1 6	1 0
Endive, doz. ...	1 3	1 6	Shallots, lb. ...	0 3	0 0
Herbs, bunch ...	0 3	0 0	Spinach, pad ...	0 0	0 0
Leeks, bunch ...	0 2	0 0	Sprouts, $\frac{1}{2}$ sieve ...	1 6	1 9
Lettuce, doz. ...	1 3	0 0	Tomatoes, lb. ...	0 4	0 9
Mushrooms, lb. ...	0 6	8	Turnips, bunch ...	0 3	0 4

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6 0	to 36 0	Heliotrope, doz. ...	4 0	to 6 0
Aspidistra, doz. ...	18 0	36 0	Hydrangea, doz. ...	8 0	10 0
Aspidistra, specimen ...	5 0	10 6	Lilium Harrisii, doz. ...	12 0	18 0
Calceolaria, doz. ...	4 0	6 0	Lobelia, doz. ...	3 0	4 0
Coleus, doz. ...	3 0	4 0	Lycopodiums, doz. ...	3 0	4 0
Dracæna, var., doz. ...	12 0	30 0	Marguerite Daisy, doz. ...	6 0	9 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	4 0	6 0
Erica various, doz. ...	12 0	24 0	Musk, doz. ...	2 0	6 0
Euonymus, var., doz. ...	6 0	18 0	Myrtles, doz. ...	6 0	9 0
Evergreens, var., doz. ...	4 0	18 0	Palms, in var., each ...	1 0	15 0
Ferns, var., doz. ...	4 0	18 0	„ specimens ...	21 0	63 0
„ small, 100 ...	4 0	8 0	Pelargoniums, scarlet, doz. ...	4 0	6 0
Ficus elastica, each ...	1 0	7 0	„ „ ...	8 0	10 0
Foliage plants, var., each	1 0	5 0	Rhodanthe, doz. ...	4 0	6 0
Fuchsia ...	5 0	8 0			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blooms ...	3 0	to 4 0	Mignonette, doz. bnchs. ...	1 6	to 3 0
Asparagus, Fern, bunch ...	2 0	3 0	Myosotis, doz. bnchs. ...	1 0	2 0
Bouvardias, bunch ...	0 6	0 9	Orchids, var., doz. blooms	1 6	9 0
Carnations, 12 blooms ...	1 0	3 0	Pelargoniums, doz. bnchs. ...	3 0	6 0
„ 12 bnchs. ...	4 0	8 0	Polyanthus, doz. bnchs. ...	1 0	1 6
Eucharis, doz. ...	3 0	4 0	Pyrethrum, doz. bnchs. ...	1 0	1 3
Gardenias, doz. ...	1 0	4 0	Roses (indoor), doz. ...	0 6	1 6
Geranium, scarlet, doz. bnchs. ...	0 0	6 0	„ Red, doz. ...	0 3	0 6
Iris doz. bnchs. ...	4 0	6 0	„ Tea, white, doz. ...	1 0	2 0
Lilac (French), bunch ...	3 6	4 0	„ Yellow, doz. (Perles)	1 0	2 0
Lilium longiflorum, 12 blms	3 0	4 0	„ Safrano (English) doz.	1 0	2 0
Lily of the Valley, 12 sprays	1 0	2 0	„ Pink, doz. ...	1 6	3 0
Maidenhair Fern, doz. bnchs. ...	4 0	8 0	„ Moss, per bunch ...	0 9	1 0
Marguerites, doz. bnchs. ...	1 6	2 6	Smilax, bunch ...	1 6	2 0
			Sweet Peas, doz. bnchs. ...	1 6	3 0



AGRICULTURAL IMPLEMENTS.

THERE is much to be learnt at any agricultural show, even by an outsider who has no interest in the farming industry, and the implement section is by far the most instructive to those who will take the trouble to make a thorough inspection and study of the several machines and their uses. Of course the various manufacturers thereof, or their representative agents, are present ready to convince every likely purchaser that their respective machines are far the best on the market, but it is always preferable in such cases to look well

before you leap, and the result of a waiting policy will very often mean a saving of money as well as a more satisfactory purchase.

An inspection of the implements in a show yard is not to be undertaken in a hurry, for it is not the most attractive-looking machine that is generally of the most use, but the modest, unpainted, cheap article may, like the toad of Shakespeare, "wear yet a precious jewel in its head."

Many of the most practical farmers who can spare two days for a particular show, spend the first in watching the judging of live stock, often, indeed generally, accompanied by their lady friends. This day of leisure and pleasure is followed by a day of business—viz., the careful and systematic inspection of every machine, the owners of which claim for it any novelty in construction or action.

Real novelties of any value are few and far between, and if they cannot be found at the Royal Show it is not likely they will be seen elsewhere, for the inventor, as a rule, is too proud of his production, and has too much faith in its powers to allow it to lie fallow at home when it may be attracting the attention of admiring thousands in the Royal showyard.

Messrs. Ransomes, Sims & Jefferies, exhibited a plough for renovating pastures which, if it will perform as well as it is said to do, will be a great boon to the occupier of moderate grass land, and if we consider that at least three-fourths of the area of England is grass of poor to medium quality, it will be apparent how wide a scope for utility there is open to such an implement.

The manufacturers claim for it that it will cut the turf to the depth of 2 or 3 inches, cultivate the soil beneath, cutting the roots of thistles and other weeds, and return the sod to its original position. We think this plough deserves attention.

Another implement exhibited by Messrs. Ransomes is a double-row Potato planter with improvements for catching, or rather clutching, the sets. It is well that machine makers try to perfect all kinds of machinery, but the labour of planting Potatoes is so very light and immaterial, that machines for superseding hand labour will have to be perfect before they can come into general use.

Might we suggest to inventors that there is great opening for improvement in Potato lifting, a process which is both costly and difficult to perform well where labour is not plentiful; and as labour is scarce and dear almost everywhere, a fortune awaits the man who will make horse labour equal to the task of efficiently lifting Potatoes without damage to the tubers.

Messrs. J. & F. Howard had a splendid assortment of cultivators, ploughs, and harrows. Their cultivator, a modification of the spring tooth principle, is set wide enough to go through very foul land without clogging up, and we have seen very good work done by it where few other machines could have been pulled through at all.

This firm also exhibits a small cultivator, which we should rather designate a horse hoe. This will be a most useful implement to market gardeners, for it will make splendid work in clearing the weeds away from the spaces between rows of fruit or vegetables.

An apparatus which attracted general attention was one invented by Mr. Pogson, of Bottesford, its object being the easier stacking of Clover, hay, and corn. A fork grips huge lumps of hay, and conveys them to any reasonable height. The use of this machine must facilitate the making of high ricks, and save labour in the eaming of loads; but if it comes into general use a good stacker will be more necessary than ever, for the more quickly the operation is performed, the greater the need for expertness in the performer.

The Dairy Supply Company exhibit a novel milk strainer, which appears to us to possess very valuable properties. It consists of two tin vessels, one being smaller than and fitting inside the other, there being a clear space between their sides. The inner one has a bottom made of coarse wire gauze, through which the milk sinks into the outer vessel; the latter has its sides made of fine wire gauze, and the milk passes through this into a churn or other larger vessel beneath. As the gauze becomes obstructed by particles of dirt the milk rises and flows through the gauze, where there is no obstruction. Thus cleaning is not soon required, and is easily done; but we would warn

beginners that cleanliness is everything in dealing with milk, and that the strainer must be cleansed and scalded every day, whether it works well or not.

Messrs. Lister & Dursley exhibit a new circular milk cooler, which appears to be a distinct advance on the old type, the chief advantages appearing to be greater durability, owing to the absence of corners, the latter fact also tending much in the direction of cleanliness.

A feature of the show was the number of machines for pasteurising (a real dictionary word this, and therefore it must not be missed) or sterilising milk.

No doubt much good must be done by the use of such machines in the direction of stamping out zymotic diseases, in the dissemination of which infected milk plays so important a part; but we fear that the average British householder, who likes butter with a flavour of its own, distinct from that of Denmark, may prefer his milk undiluted as it comes from the cow, or even would prefer a little water, provided it be clean, in addition, rather than have it boiled for him.

WORK ON THE HOME FARM.

St. Swithin's has come and gone again; and, alas! if predictions are worth anything, we are in for a long spell of drought. A grand crop of hay safely got; and now, as harvest is still in the distance, we can engage in many useful little odds and ends of work.

Early Potatoes are about fit to get, and the sooner they are in the market the better. The blacksmith's yard is full of reaping machines in process of being looked after. Need we impress upon all the desirability of having some of the parts of the machine in duplicate? In the full swing of harvest work it is most annoying to have a breakdown and be miles away from an ironmonger's or foundry.

It is not a bad plan now to order in house and engine coal. Summer prices prevail, and the horses are fairly at liberty. The hoe must be kept at work among the roots, for however dry the weather is, weeds still grow, and when harvest sets in they have to be left.

Pastures are running off quickly, and we see our neighbour carting Tares for his milk cows and draught horses. Lambs, too, must come in for share of attention. As long as the weather is dry they will take no hurt, but should heavy rains fall, pastures will be flushed with unwholesome, quickly grown herbage.

Lambs should have as much change in the way of pasture as possible, and a turn on the fresh aftermath will do them a world of good. We are giving lamb food in addition; it is easier to keep a lamb healthy than to successfully doctor it when invalided.

With butter rather soft, as it is at present, the dairymaid is apt to leave too much moisture in it. For those who possess butter workers, the fault is unpardonable. We have lately been nearly poisoned twice in one week by awful butter, so we just give a word of warning.

As harvest nears, supplies of small corn for the poultry fall off. It is mistaken policy to starve fowls; a little outlay now means a good autumn supply of eggs.

The land from which Tares have been cut and carted will, if not too dry, produce with deep ploughing a crop of Turnips.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.: Altitude 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1898. July.	Barometer at 32°, and Sea Level	Hygrometer		Direc- tion of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Tempera- ture.			
		Dry.	Wet.			Max.	Min.	In Sun	On Grass		
	inches	deg.	deg.		deg.	deg.	deg.	deg.	deg.	inches	
Sunday 17	30.181	71.5	61.9	N.W.	65.6	77.4	58.1	121.4	52.7	—	
Monday 18	30.013	69.2	62.1	W.	65.1	80.4	57.1	123.7	52.8	0.112	
Tuesday 19	29.944	64.1	59.8	N.E	65.6	71.9	60.2	119.4	56.8	—	
Wednesday .. 20	30.118	59.1	53.8	E.	64.0	70.3	53.8	114.8	54.7	—	
Thursday .. 21	30.202	57.6	52.4	S.	62.7	75.8	47.1	118.2	43.9	—	
Friday 22	29.890	67.9	62.4	S.	63.5	75.9	58.8	114.9	56.2	0.236	
Saturday 23	29.731	65.2	60.4	W.	62.9	75.5	58.1	123.1	55.9	0.014	
	30.011	64.9	59.0		64.2	75.3	56.2	119.4	53.3	0.362	

REMARKS.

- 17th.—Bright early and late; cloudy at times in morning, and overcast from about 1 P.M. to 4 P.M.
 18th.—Bright sun, tempered by cloud, in morning; overcast, and threatening for a time, in afternoon.
 19th.—Steady rain from 6 to 7 A.M.; occasional sun after 9 A.M., but generally overcast, and spots of rain in evening.
 20th.—Overcast till 2 P.M., with gleams of sun; sunny after, and bright evening.
 21st.—Fair, but hazy; frequent sunshine, but generally faint.
 22nd.—Occasional sun in morning; rain from 1 P.M. till 2.30 P.M., and from 5.45 to 6.15 P.M.; fine evening.
 23rd.—Fine and generally sunny morning; overcast after 2 P.M., and slight rain in evening.

A fine week, but temperature not exceptionally high.—G. J. SYMONS.

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Journal of Horticulture.

THURSDAY, AUGUST 4, 1898.

THE JOURNAL OF HORTICULTURE can be obtained from the Office, 12, Mitre Court Chambers, Fleet St., London, post free for a Quarter, 3/9. Editorial communications must be addressed to 8, Rose Hill Rd., Wandsworth, S.W.

PEACH CULTURE UNDER GLASS.

SO much has been written on this important crop that it is seldom one meets with anything new upon the subject, and in this note I am not thinking of advancing anything that has not been written of before. My aim is rather to condemn the system of keeping old and worn-out trees, that years before should have been consigned to the rubbish heap. You shall enter garden after garden in which new varieties of flowers, improved vegetables, and other crops, are introduced year after year, but the same old Peach and Nectarine trees, that have done more than their duty, are allowed to remain.

It is, in numerous instances, no fault of the gardener in charge that such things are, but in others it undoubtedly is, and why the making of a new border and replanting is so long neglected is remarkable. When the subject is mentioned one hears various excuses; the crop would be lost; there is a difficulty about a supply of loam for a new border, and other alarms are instanced, but really it is not such a formidable affair after all. Perhaps it is not always possible to get exactly what one may wish, but in such cases it is wise to make the best of what is at hand, and I could mention instances of very successful—even remarkably successful—culture, where the conditions at first were far from promising.

To instance an imaginary garden where loam is scarce; there are clippings of grass edgings, oddments of turf from alterations to flower beds or lawns, and the refuse soil from the potting bench. All such material, decayed by laying in a heap for a few months, is extremely useful, and with the kitchen garden soil will make a compost quite good enough to produce splendid Peaches and Nectarines. Then the ash from a garden smother, where the whole of the woody odds and ends are charred, is one of the most valuable additions to the compost or material for top-dressing. Were fruit borders oftener dressed in autumn and spring with this, instead of cold sloppy manure, the results would be far better.

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Last Season we had a Stock of over 20,000, a stock which for excellence or number we believe to be without parallel. The above shows a sample Tree from photo; we have Apples, Pears, and Plums trained in this form. Peaches, Nectarines, Apricots, Cherries, &c., as fan-trained Trees. We were the first to grow Plums as horizontally trained Trees, a method which suits them infinitely better than any other.

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No. 945.—VOL. XXXVII., THIRD SERIES.

It may not always be possible to remake the whole of the border at one time. Take the old soil out as far as the new border is to go to the depth of 3 feet. If there is any doubt as to waterlogging the bottom must be drained, of course, but often much unnecessary trouble is taken in this matter. In a naturally well drained station nothing more than about 6 inches of roughly broken stone or brick is required as a base. Cover this with a little straw litter to prevent the finest parts of the soil silting down into the drainage, and fill up with the soil, ramming it as hard and firm as possible; two or three men ramming and one filling in, unless the soil has to be wheeled very far. It is impossible, in short, to have the border too firm. Where there is a deficiency of lime in the soil, a little powdered quicklime must be mixed with it. Old mortar rubbish is an excellent addition, especially as a mechanical agent in keeping the soil open.

The size of the trees depends of course upon how much can be spent upon them, but most of the principal nurserymen can supply trees trained with large heads, 5 feet or 6 feet across, and these are the best to procure. Only the unripened points of the shoot need be cut off at planting time, and the trees must be got in as early as possible before the leaf falls. Large trees shifted last October in full foliage, many of them with the fruit only just gathered, have this season finished splendid crops of fine fruit, notwithstanding they were moved from a late to an early house. All that is necessary is careful lifting and replanting, with judicious watering afterwards. The syringe must be freely plied about the growths, and a light shade provided in very bright weather until the foliage falls.

Smaller trees will not of course be expected to fruit the first season, and the aim of the grower must be to obtain a very free growth, to lay this in at its full length, including any laterals that room can be found for without crowding, and by full exposure of the foliage to sun and air to insure a free set of good fruit the ensuing season. Trees at all inclined to be too strong in growth must be allowed to carry a heavy crop. It will do more towards bringing them into a healthy, free bearing condition than anything else, and is far preferable to root-pruning. To take all the fruit from strong, healthy young trees, thereby setting up an unnaturally strong growth, to further this by too free use of the knife in the earlier stages, and then to try and set the matter right by root-pruning, is about as ridiculous a piece of business as can well be imagined, and yet this is just what is practised in many otherwise well-ordered gardens.

Pruning in theory consists in simply cutting away in early autumn the wood that has fruited, another shoot having been brought up to take its place. But, like every other detail of culture, this cannot always be carried out to the letter, nor is it advisable. When the trees start in the spring, disbudding of the shoots takes place, and it is well to have enough shoots in reserve, as some, instead of elongating, simply make short side spurs. An orthodox pruner would cut these spurs out, but in many cases they are very useful, especially in young trees, where it may be difficult to secure a full crop of fruit, these small spurs being in almost every case closely studded with fruit buds.

Endeavour in all cases to secure good shoots as near the base of the old wood as possible, this insuring a well-furnished tree. Stop the end of the bearing shoot, so that it does not crowd other wood, and while laying in a sufficiency of young shoots everywhere, avoid crowding, as one fully developed growth is far better than a dozen gross and ill-ripened ones for fruit producing. Pruning should follow immediately the crop of fruit is removed, this allowing sun and air to reach the chosen shoots more freely. As to the class of wood required for bearing, varieties will be found to differ, and as a case in point, the fine new Nectarine Early Rivers may be mentioned. This will bear fruit freely upon wood that most growers would consider far too strong; and were such wood produced on some of the early Peaches as Waterloo, the probability is that bud-dropping would be so much in evidence, that nothing like a crop would follow.

Many other instances of vagaries of certain varieties may be given did space permit. The spurs mentioned above should be freely left on all kinds given to bud-dropping. They will often mean the

saving of a crop, and taking up as they do so little room, do no harm by crowding other wood. It will be found that the trees which drop the fewer buds are they that have well ripened but not too large growths, that owing to having been kept free of insects have properly developed buds, and are not allowed to suffer from want of water in winter. Despite all that has been written and said to the contrary, lack of root moisture in winter is a fruitful cause of bud-dropping in Peaches and Nectarines.—H. R. RICHARDS.

EXPERIENCE WITH STRAWBERRIES.

THE first article in your issue of July 21st is very interesting, and, as usual, *apropos* and up to date. The writer asks others to record their experience of Strawberry culture during the past year, and I do so the more readily because some months ago I sent you a paragraph or two on some experiments I was making, with a promise to report on the results.

My runners taken from barren crowns were kept quite apart from those obtained from the fertile plants, and I have now discovered for myself what I was unable to learn from others—viz., that it is of no consequence which we use for propagation, except, indeed, that barren plants give the earlier and stronger runners. Both sorts have this year blossomed equally well and borne equally fine fruit. But better than either have been the plants made by splitting up the old roots into single crowns.

I may add that my plants were of two kinds only—viz., Royal Sovereign and Laxton's Latest of All. I have also begun similar experiments with Veitch's Perfection.—T. W. B.

MR. H. RICHARDS' remarks on Strawberry culture on page 39 will be of much interest to readers of your valuable Journal who are thinking of investing in new varieties for the coming season, there being a greater demand year by year for this luscious fruit. Well-dug and heavily manured ground will give good results if the plants are supplied with liquid manure, obtained from the farmyard, during the autumn and spring months, and the plantations not allowed to be overrun with surplus runners, or weeds, keeping the surface soil well stirred by the use of the fork.

Early runners must be obtained in the first place to insure health and strength, which constitute a good plant; where room is at command it will be found most profitable to plant out young runners from 3-inch pots, with the sole object of obtaining strong early plants for forcing or general planting, it being well understood that a good foundation must be laid for profitable Strawberry growing. Plants grown expressly for producing runners give good returns when planted 1 foot apart each way, where room is limited, as it is with most of us who have to keep every nook and corner filled to supply a large establishment.

An early start may be made by inserting early runners in small pots, and if these are kept close in a cold frame they will commence rooting freely after a few days. This plan will be found to answer well with growers who are unable to plant out expressly for obtaining runners, and have to wait till the fruit is gathered and nets removed. As regards distance between the rows for planting main crops, much depends on the variety chosen. With me 3 feet apart is not too much for Royal Sovereign, while others only require 2 feet and 18 inches, or 1 foot from plant to plant. The soil I have to contend with is sandy loam, sand predominating, resting on a subsoil of iron brash, which becomes very hot and dry during the summer months, making Strawberry growing difficult.

The variety I have found to succeed the best is the now well-tried Royal Sovereign, which grows freely, and produces heavy crops of fruit of excellent flavour. Plants are robust and prolific after three years' planting. James Veitch is a free grower and cropper, of good flavour, single fruits often weighing between 2 and 3 ozs. Monarch proved a fair cropper the first year after planting, but the second year all the plants have been blind. Is this a general complaint with growers of this variety? I am discarding it for others more favourable. Leader has proved a shy grower; fruiting qualities medium; flavour second-rate.

Sensation is robust in habit, and prolific, but poor in flavour. Waterloo is a weak grower, medium cropper, but the fruit is grand in colour and flavour. Noble is a good grower and bearer, of moderate flavour only. Sir Joseph Paxton, President, and Vicomtesse Hericart de Thury are amongst the older varieties which have given good results. After growing Stevens' Wonder two years, and obtaining no fruit, it has been discarded. How does this variety behave with the majority of growers? Veitch's Perfection is doing well with me this season, growth medium, and flavour all that could be desired. Laxton's Latest of All, planted out one foot apart each way, has, though of weak growth, proved a good cropper and the fruits well

flavoured. A bed of it proved valuable for late use. Empress of India, Gunton Park, and Lord Suffield proved a total failure in the soil described.

I am looking forward to the two new varieties, Fillbasket and Mentmore, and hope to give them a good trial next season. Any remarks on Strawberry culture, and varieties which best succeed on heavy, light, wet, or dry soils, would be of value to readers of the *Journal of Horticulture*.—WM. JAS. PENTON, *Bowden House Gardens, Chippenham*.

YOUR correspondent, Mr. Richards, in his interesting article on Strawberry culture on page 39, invites opinions on the merits of different varieties of this popular fruit. Circumstances alter cases, and in this respect private gardeners and market growers have to look at the matter from different standpoints. Without criticising any of Mr. Richards' remarks, or differing from him in regard to the flavour of Sir Joseph Paxton on many soils, I only state a fact when saying that it is still one of the varieties on which the Kentish grower pins his faith. Appearance is, perhaps, the first thing to be considered by those whose office it is to supply the public, and this is why such noble looking Grapes as Gros Colman, for instance, are purchased before others of much superior quality.

The Kentish fruit-grower produces Strawberries for the million, and the million do not seriously consider flavour so long as the fruit is fine and richly coloured. Here Sir Joseph Paxton scores, and during the last few weeks acres of this variety have been a sight worth seeing. Again, in point of flavour there are doubtless many superior to the old favourite; but on Kentish soil, naturally suitable for Strawberry culture, the quality is far from being inferior, and coupling this with its other characteristics the Kentish market grower has a difficulty in finding anything to profitably supersede his well tried Paxton.

No matter how good a Strawberry may be in other respects it is not profitable unless it travels well, and here Sir Joseph Paxton excels. Not only are tons of this variety placed in the London markets in sound, fresh condition every day during the season, but train-loads are despatched to Manchester, Liverpool, Glasgow, and other great centres in the north. Imagine the loss to the grower if these arrive in an unsaleable condition! It is a question of pounds, shillings, and pence, and it is only a Strawberry that possesses all the necessary attributes and is superior in flavour that has any chance of superseding this popular variety as a market fruit.

Your correspondent speaks highly of Royal Sovereign, and here probably we have the nearest rival to the variety aforementioned. Perhaps in the future it will have the ascendancy, as many acres have recently been planted, and generally market growers speak well of it. It is early, prolific, and of good constitution—all points in its favour. At one time "Paxton" was the only household word Strawberry among Kentish market growers; but "Sovereign" is evidently coming to the front. Noble is grown in some districts, but is not a general favourite.

Dr. Hogg, the variety of which your correspondent speaks so highly, has been in cultivation so long, that if it possessed the same good qualities everywhere as it does at Coldham Hall, it would now be in the front rank of Strawberries. Unfortunately, however, it does not, and my experience of it on rather a strong soil was by no means satisfactory. The fruits were large and of fine flavour, but they lacked colour, while the plant was a poor cropper, and only an indifferent grower. Though the Kentish grower pins his faith to a few well-tried sorts, he is generally on the alert to supplement his list by the introduction of any variety likely to prove profitable. Had Dr. Hogg proved a full and reliable cropper, I fancy it would have found its way into Kentish Strawberry fields long before this.—G. H. H.

[Dr. Hogg is essentially a garden Strawberry, and where it succeeds is one of the best in cultivation. We have had most satisfactory crops by planting early annually in rather light soil, and destroying a certain number of plants after the second crop. We have seen numbers of selected "Paxtons" named "Dr. Hogg" in fruiterers' windows, and sold for extra prices accordingly.]

A VALUABLE STATION FOR HAMBURG.—An announcement has been made that it is the intention of the State of Hamburg to establish a station for the investigation of insects and contagious funguses inimical to plant life. The Director of the establishment is Dr. C. Brick of the Botanical Museum, Hamburg; and the Zoologist Dr. L. Reh. The chief reason for the establishment of the station was the continual examination at the port of Hamburg of imported fruit from the United States of America suspected of infestation by the San José scale. The station will further watch the importations of living plants from abroad, in reference to phylloxera, and other important objects of its mission will be the combating of all sorts of plant diseases, also the inspection of the schools for viticulture, of Vines grown on trellises, and fruit orchards in Hamburg and the surrounding country, and generally to occupy itself with matters pertaining to the above subjects.



LOOKING BACK.

THE keen feelings of vexation and disappointment which had found expression on the lips of many rosarians during the exhibitions of the last two years at the Crystal Palace were entirely absent this year. The arrangements for holding it in 1896 and 1897 were sadly interfered with by the exhibitions of carriages and the Jubilee Exhibition, and the members were loud in their denunciations of the arrangements. In some cases through ignorance the blame was laid on the Committee of the National, who had, however, nothing to do with it. They were bound to accept whatever the Directors of the C.P. offered them, and consequently were entirely shut out from the transepts. This year, however, the case was different; the full space available was given to the Society, as it used to be in former years, and loud were the expressions of satisfaction that it was so. There was plenty of space for all the blooms exhibited, and there was no occasion to dodge in and out in the dark concert room to look for the flowers one wanted to see. The day was a delightful one—bright, but not glaring, and under such circumstances there is no place that can be compared to the Crystal Palace for a Rose show. The light is good, and there is no fear of the flowers being damaged either by rain or wind.

As to the character of the exhibition as compared with other years, there have, of course, been better ones, but there have been much worse. The number of flowers exhibited is no criterion as to quality, but I think the universal opinion was that it was a far better exhibition than one could have anticipated in a backward season like the present. The nurserymen's classes are generally in advance of the amateurs', while very often we find in a favourable season the case is reversed, especially among the smaller amateur exhibitors. They have but a few plants to depend on, and consequently are unable to cut the number of blooms they require, or have to put up with indifferent ones. There is, of course, always a great anxiety to know about the challenge trophies. Once more Mr. E. B. Lindsell carried off the amateurs' trophy for mixed varieties. His H.P.'s had amongst them many of the best blooms in the Show; this was especially the case with the high-coloured flowers. There is no amateur, I think, who can exhibit such blooms as Horace Vernet, Xavier Olibo, Count Raimbaud, Charles Lefebvre, Duke of Edinborough, and A. K. Williams as he does; while Capt. Hayward, Mrs. W. J. Grant, and Gustave Piganeau were exceptionally fine. The Rev. Joseph H. Pemberton was a fair second; the season, however, was an unfavourable one for him, as his maiden plants were not in flower, and he had to—what is an unusual thing for him—depend entirely on his cut-backs.

The challenge Tea trophy was carried off by Mr. A. Hill Gray, of Beaulieu, Bath, whom this late season especially favoured, for his row of terraces, with their well-built walls, placed him in a position to defy all competitors. The eighteen were splendid. Maman Cochet, Princess Beatrice, Comtesse Patisse, Comtesse de Nalailac, Medea, Souvenir de S. A. Prince, Catherine Mermet, and her daughter The Bride were all very fine. The nurserymen's challenge trophy once more was carried off by Mr. B. R. Cant, although I fear the good old veteran had little to say to the flowers, or was much interested in the contest; his mantle has, however, fallen upon his son, Mr. Cecil Cant, and I think he will worthily fill the place so long occupied by his able and successful father. Some of his finest flowers were Mrs. W. J. Grant, Horace Vernet, Cleopatra, Madame Cusin (highly coloured and fine quality), Capt. Hayward, Sénateur Vaisse (one is always glad to see this fine old flower occupying a foremost place), Marie Baumann, Mrs. Sharnian Crawford, Le Havre (a flower we do not see so often as might be), Helen Keller (a very fine flower), and Souvenir d'Elise Vardon.

Another interesting competition was that for the best eighteen Roses for growers under 2000 plants. This was creditably won by Mr. Conway Jones, of Hucclecote, Gloucester, and affords another example of how growers are encouraged by the prizes offered by the National to advance the culture of the Rose. This exhibitor began in a very small way, but as each year advanced gaining honours as he proceeded, and has shown by his success in this instance how well he has managed his plants. Mr. Charles J. Grahame has done more than any member of the Society to encourage small growers, and is for ever showing his liberality by offering such prizes as may induce persons with small gardens to come forward; thus this year he offered a prize

for growers under 1000 plants, and this was won by Mr. Moules, of Hitchin, with a very good stand of neat flowers—not over-large, but clean and good.

There is always a certain amount of interest attaching to what are called medal Roses—that is, the best Rose in each division. This year further interest was excited because an additional medal was given for Hybrid Tea Roses, separating them from the H.P.'s, so six medals were awarded instead of four. This is a most difficult class to judge, and one always hears differences of opinion expressed and the decision of the judges challenged, according to the taste of the individual. But this year the decisions were generally acknowledged to be correct, both in the amateurs' and nurserymen's division. The medals for the best Teas were awarded to that queen of the class, Comtesse de Nadaillac, and was won by Mr. A. Hill Gray of Bath and Mr. Prince of Oxford. Mr. Lindsell won the medal for the best H.P. with a grand bloom of that *chef d'œuvre* of the late Mr. Bennett, Mrs. John Laing, and in the nurserymen's class by Mr. Townsend of Worcester with a fine bloom of Gustave Piganeau, a Rose which I do not personally care for, but which certainly has the merit of size.

The medals for Hybrid Teas were won by two grand blooms, White Lady, exhibited by Mr. Charles J. Grahame, certainly the finest bloom of this flower that I have ever seen, and by Mr. B. R. Cant for a grand bloom of Mrs. W. J. Grant, a Rose which, if I rightly remember, was first shown as an H.P., but has this year come out in grand style. There was not, I believe, a single first prize in which it did not figure, and the dozen shown by Mr. B. R. Cant were beyond doubt one of the most attractive features in the class for twelve of one sort. One was also very glad to find that the expressed wish of the National that it should be known by this name and not by that which the American purchaser has given to it had been loyally carried out by the members of the National. Messrs. Dickson & Sons had a fine box of their new Rose Ulster, a Hybrid Perpetual of great freshness and beauty. In the open class for twelve new varieties there was not much that was absolutely new. One of the prettiest in the stand was Empress Alexandra of Russia, a very fine new Tea which we owe to the Waltham Cross firm, Messrs. William Paul & Son.

There was one stand exhibited by Messrs. Alex. Dickson & Sons which seemed to me of much interest; it was composed of single and semi-double Tea Roses, which, I think, are likely to be useful for garden decoration by-and-by; they were of many shades of colour, and being Teas, are likely to be of continuous flowering. Some of the most conspicuous were Simplicity, yellow, flushed with pink; Sympathy, yellow inside of petals, outside rose flushed with silvery white; Beauty, pure white, large, and a real beauty; Felicity, silvery white, flushed with pink; Irish Glory, semi-double, pink and silvery white. Princesse de Venosa, a new Tea Rose, shown in Mr. Conway Jones' collection, is likely to be a favourite at any rate for the garden; the colour is a good yellow, shaded with deeper yellow. There was not the keen competition for the prizes offered by Lord Penzance and Messrs. Keynes, Williams & Co. for the stand of Hybrid Sweet Briars, that one would have wished for; but the stand exhibited by Mr. Orpen attracted much attention, and elicited many remarks of admiration. It contained, amongst others, Lady Penzance, probably the best of the whole series; Amy Robsart, and Anne of Gierstein. I was told by a leading grower that these are best used as bushes, and they make a charming display in shrubberies, where they will rank among the best and prettiest of flowering shrubs.

Garden and decorative Roses, as usual, attracted a great deal of attention, and are now exhibited with much more taste than they used to be. Messrs. Paul & Son of Cheshunt, and Cooling & Son of Bath, ran as usual a neck and neck race, and each stand had something of novelty beside beauty to recommend it; thus Messrs. Paul & Son had Royal Scarlet, an H.P. of most brilliant colour, and also their very pretty Dawn; while Messrs. Cooling & Son had a fine bunch of their new gold medal Rose Purity, and also a yellow Noisette, which will be useful for garden decoration. There were, besides these, such well known and beautiful decorative flowers as Marquis de Salisbury, Gustave Regis, macrantha, Paul's Carmine Pillar, Paul's Single White, Crimson Rambler, Marquis Litta, W. A. Richardson, and Ma Capucine.

There was not much competition amongst new seedling Roses, but the judges awarded a gold medal to Messrs. Cooling & Son's Purity, a white Bourbon Rose of very free flowering habit, early, and of good form and substance. It is not absolutely the first garden Rose that has been so decorated, for the medal has been given to Turner's Crimson Rambler, but that was an exceptional case, for it is neither a seedling nor a sport raised in this country, but was imported

from Japan, and so I think we may say that Purity may claim the honour of breaking the ground for garden Roses.

There were one or two noticeable features in the exhibition. One was that owing to the lateness of the season the northern growers were shut out, and one regretted very much to find that that most enthusiastic rosarian, Mr. H. V. Machin, was unable to put in an appearance; another was that a considerable accession of new names as exhibitors in the smaller classes appeared in the lists. There is always a tendency amongst the larger growers to get tired of the work after a few years. To this we owe the disappearance of such exhibitors as Mr. Whitwell, Mr. T. B. Hall, and Mr. Baker, and from the murmurings that I heard from some of their successors I shall not be surprised if they were to follow their example.

One of the pleasantest features of the Metropolitan Show is the meeting of so many old friends with whom one has been associated for the last twenty-two years. It is a real pleasure to meet them, and to myself, who must very shortly be put upon the retired list, it is very gratifying to receive the expressions of good will from so many. We, of course, know not what may be before us. The Crystal Palace has we believe passed into other hands, and we do not know whether their arrangements will be the same as at present; but we have tided over many a difficulty, and I hope this will be surmounted. In the meantime I do not think we can see many symptoms of decline of interest in the culture of the flower, and if certain rocks which I see ahead can be avoided, we may hope the National has many years of success before it.—D., Deal.

UPSIDE-DOWN VINES.

THE eye of the Master twinkled as he led me towards a glass structure in the corner of a large court. I was not quite sure whether it was the first fibre of a new twinkle, or the last shred of an old one, for, while seated together in his room, there had come a knock at the door, followed by a brief colloquy between the Master and a small boy affectionately clutching a handful of sour green Apples. The small boy begged to intimate that he had found the Apples under a tree. The Master begged to know what he wanted to do with them. The small boy did not know. Thereupon he was invited to step outside, and wait there until an idea occurred to him. Ten seconds afterwards the small boy hastily reappeared, prompted, I have reason to believe, by some pointed suggestions from a band of disgusted bigger boys without. Had the idea come? Yes sir, he would like to eat them.

There was, I say, a doubt as to whether it was the lingering remnants of the twinkle which accompanied the Master's permission, or a new one inspired by some fresh reflection, that I perceived as we approached the house. But when we entered this doubt resolved itself into thin air. The structure was a vinery, 15 to 20 feet long by about 10 feet wide, a lean-to. The Vines—Black Hamburgh—had been planted against the back wall, and the rods turned down at the ridge. In the case of one they had been stopped when the tips reached the eave; but in the case of another—and to this there hangs a tale—a rod had been turned when it reached the eave, trained horizontally, and new rods taken up from it, so that the up-growing new rods ran parallel with the down-growing first rod. Thus one Vine was in the most unblushing way trying to stand upon its head; while the other, after performing that acrobatic feat, had turned over a new leaf and was assuming the perpendicular again.

But in the fact of a Vine being trained up a back wall and down the roof there is nothing new. I have somewhere read of a case where rods so trained rooted in the soil at the base, and the rods severed at the apex of the root, and so, in truth and fact, did stand upside down. The real topsy-turveyism came in another phase of treatment. It appears that the Master was away from home for some time in the spring, and returning at Whitsuntide saw that the right-end-cum-wrong-end Vine was not looking very well. It had, it must be stated, set its berries. Now, the Master read the *Journal of Horticulture* for many years, and in particular he studied the articles on Grape growing by Mr. Wm. Taylor when at Longleat. From them he had imbibed the idea that healthy root action is the secret of success. Surveying his indisposed Vine with tender solicitude, the idea occurred to him that there was something wrong at the roots. Not having the Röntgen rays available, he felt compelled to go in for dissection. He pulled that part of the border to pieces, removed every particle of soil, tied up the roots with bass, and then made up a new border. All this, it must be remembered, was done while the Vine was in full growth and crowded with bunches. Astonishing to relate, the expiration of six weeks finds it in exuberant health, and carrying far superior bunches to the one which was not touched.

The Vines were planted three years ago, and last year carried eighty good bunches. The border is barely larger than most people

make up for their Tomatoes. It is on the concrete floor of the house, in a space restricted to about 2 feet in width, rests on a layer of brick-bats, and these included, is not more than 18 inches deep. The Master thinks it must be one of the smallest in the country. Probably it is, and anyone who would like to see it, and to see the upside down Vines and the topsy-turvy border-making, should call at the Sandgate Cottage Homes, near Folkestone, the next time he is at the seaward end of Kent.

Meanwhile, I told the smiling Master, pupil of Wm. Taylor, of Longleat memory, that I was going to show him up. When and where Mr. Taylor advised renovating borders for Vines in fruit at the end of May I don't remember, but perhaps the information will be forthcoming.—W. PEA.

THE ASPARAGUS BEETLE.

THIS beetle (*Crioceris Asparagi*) often does much harm to Asparagus, especially in beds which have been established from one to three years, by eating and disfiguring the heads as they are formed, and later on by attacking the stems and seeds, of which it is particularly fond, both in the beetle and larval stages. In the beetle stage the insects bite the tender Asparagus heads while these are yet underground, or only just showing above the ground, making brown patches upon them, and spoiling their appearance for market. Later on the beetles eat the feathery shoots of the plants, as well as the large round seeds, to which they are very partial. A beetle will eat a considerable quantity of the tender feathery shoots in the course of a day. The larvæ are also most voracious, and sometimes, in bad cases of infestation, the long stems of the plants are left completely bare of foliage by successions of larvæ.

The Asparagus beetle is common in the southern, eastern, and western parts of England, but it is rarely found in the northern districts. Canon Fowler, in his *Coleoptera of the British Isles*, states that he does not know of a record from any locality further north than South Derbyshire. It is known in France,* Germany, and Italy, and probably throughout Europe.

In the United States, where it was introduced from Europe in 1858, it has spread very rapidly. It was first seen at Astoria, in Long Island, where Asparagus is largely grown, and by the year 1862 the beetle had spread throughout the Asparagus beds of Long Island.

LIFE HISTORY.

The beetle (fig. 15) is about a quarter of an inch long and comparatively narrow in width. Its body is shiny black, with a blue tinge; its head is black; its ten-jointed antennæ are dark brown; its thorax is red, with two black marks or lines upon it; and its wing-cases have outer margins of orange-colour and black inner margins, and there is a transverse bar of black across them. Upon each wing-case there is a row of three yellowish or lemon-yellowish spots, or patches, which, with the transverse bar and the black margins, form the figure of a cross; hence the beetle is termed "Cross-bearer" (the French call it "Porte-Croix").

Eggs are laid by the beetles in the early spring upon the heads, shoots, and, in summer, on the feathery foliage of the Asparagus plants. The eggs are brown, long, and somewhat cylindrical, being glued by their ends to the plants, usually in rows of three to five, but frequently they are placed singly. Larvæ come forth in from eight to ten days, and immediately begin to feed upon the Asparagus. The larval stage lasts for fourteen days, or for about this period, when the larvæ fall to the earth and undergo transformation just beneath its surface in a slight cocoon. The number of broods appears to depend upon the weather and the supply of food. Beetles and larvæ are frequently found upon the plants until the middle of October.

The larva, which is about the fifth of an inch in length when extended, is of a dark olive-green colour, and usually has a black mark upon its back. It is thick, fleshy, and somewhat slimy, with a shiny black head and three pairs of shiny black legs; the lower end of its body is unusually prolonged to help locomotion and to enable the larva to cling to the stems and shoots of the Asparagus. There are also two rows of tubercles along the body, which have the appearance of rudimentary pro-legs.

It has not been definitely decided whether this insect hibernates in this country in beetle or pupal form, but the evidence tends to show that here, and in other European countries, it exists during the winter in the latter form in the earth. The majority of the American entomologists, including Fitch, Lintner, and Chittenden, hold that the winter is passed in beetle form. Dr. Lintner says:—"The beetles destined to continue the species survive the winter in dry sheltered places, as beneath bark, in crevices of wood, and under the boards of buildings."

* Boissduval says that the Asparagus growers of Argenteuil, in France, complain that it is very detrimental to their Asparagus culture.

If hibernation takes place in the pupal form in England, the transformation occurs very early, as the beetles attack Asparagus plants directly they shoot, and before the heads are above the ground, and, as is well known, Asparagus begins to shoot after the first few warm days in spring.

METHODS OF PREVENTION AND REMEDIES.

In the first stages of this attack—that is, when the beetles are underground and feeding upon the juicy parts of the heads of the Asparagus as they are formed—it is difficult to deal with them, though at this period they do considerable harm by making the heads brown and spotty. It is desirable to leave a few heads uncut in every bed where there is infestation as traps for the beetles, which get up the feathery shoots and branches during the day for pairing and the deposition of eggs. In the course of eight or nine days these plants should be brushed off close to the ground and burnt. Another set of heads should be allowed to run to shoots, which should also be brushed off and burnt.

Beds of young Asparagus plants are most liable to this attack in the first year or two, when only the strongest heads are cut for market,



FIG. 15.—THE ASPARAGUS BEETLE.

References.—1, beetle, line showing natural size; 2, larva (magnified); 3, egg (much magnified); 4, Asparagus plant, with larvæ (natural size).

as the beetles like the succulent shoots of young plants. It would seriously injure the stocks in newly made infested beds to cut off their shoots. In such cases it would be better to beat the feathery shoots smartly with sticks, and to tread heavily round the plants to crush the larvæ. Very finely powdered lime dusted on infested plants would also be efficacious, as it would adhere to the slimy bodies of the larvæ. The lime should be applied as soon as the larvæ are noticed, and the application repeated at intervals. In small beds and in beds of young plants hand-picking, both of beetles and larvæ, would be useful; but this operation is too costly where Asparagus is largely cultivated.

In extensive beds the remedies to be employed are liming and beating infested plants and trapping, as indicated above, by letting some heads grow into plants and brushing them off and burning them. Syringing can be adopted in gardens. Where Asparagus is grown upon a large scale this process is more difficult, as the plants are not set in rows; but it may be effected by means of knapsack spraying machines. Kerosine emulsion, consisting of 2 gallons of kerosine oil and half a pound of softsoap dissolved in a gallon of soft water, may be used for spraying purposes. The soap should be boiled, and while boiling the kerosene should be poured into it and churned up with the soap until it is thoroughly incorporated. The mixture should then be diluted with 15 to 20 gallons of water.

Paris green is also a valuable remedy against these and other insects which feed upon foliage. It may be used at the rate of 1 lb. of Paris green to 200 gallons of water. It is better to put 1 lb. of fresh lime with the Paris green. This mixture can also be put on with a knapsack machine. As this is poisonous it should not be used till the Asparagus has been all cut.

Spraying should be carried out before the foliage has become thick and strong. It will be necessary to repeat this operation, and it would be effective against both beetles and larvæ.

It would be desirable to examine the roots of *Asparagus* obtained for making new beds, as the pupæ may be conveyed in these. In the United States infestation is extended in this way.—(*Leaflet No. 47, Board of Agriculture.*)

THE HISTORY OF THE SOILS OF THE BRITISH ISLES.

(Continued from page 42.)

HAVING thus noticed the soils derived directly from the degradation of the chief geological formations which, for distinction, may be classified as primitive soils, we will proceed to an examination of that large and important class of soils, the result of atmospheric action; rain, frost, heat, drought, combining with these the agency for their conveyance and dispersal—water—which has been and is the vehicle for transporting, mingling and forming in its passage through the land the earthy matters displaced by the operation of the agencies already mentioned. The destruction of the hardest substances exposed to the influence of the weather is slow but continuous, and during long periods of time even the primitive rocks have yielded to the wearing action of air and water. The waste of the more pervious rocks has been in proportion rapid, and the accumulations derived from them more extensive.

It will be seen that the difference between the primitive soils and those of fluviatile collection that, although originally equally the result of atmospheric action, the disintegrated matter in one case remains on its native bed, while the true loam is composed of the matters carried from its parent rocks intermixed with other mineral and vegetable matters in its passage, and at length precipitated on the bed or banks of the river to be mellowed in the course of time, and to form a fertile soil.

To the gardener an acquaintance with the origin of the soil he has to employ in plant cultivation is a matter of the first importance, and failures and perplexities are sometimes the consequence of misapprehension. The amateur is still more liable to suffer from error in his selection of soil. He is instructed to employ good loam for many of his composts. He finds what he considers represents that matter. The surface soil of the middle lias, for example, which, presenting the appearance of loam, is nevertheless composed chiefly of disintegrated ironstone to the amount of 18 per cent. of that mineral. The same disappointment may accrue from employing soil from the rock surfaces of other formations of marked mineral character.

True loams are, perhaps, the most valuable of our soils. The accumulated matter of which they consist has been the work of rivers and their tributary streamlets with which this country is intersected, from the time when these waters first forced their sinuous way through our hills and vales in their course to the sea. In long periods of time their course has been altered, leaving in the wide valleys through which they run a record of their work in great deposits of gravel, sand, and the rich loams which have enabled many cultivators to achieve great horticultural results. The elevation or depression of certain areas even in a slight degree have altered the course of a river, leaving still the deposits its waters have collected.

The rich loams of the Slough nurseries, and the deposits on the opposite side of the Thames on which the Royal Gardens are situated, are alike the gifts of that river when its waters were at a higher level, and in volume and expanse far exceeded the present stream.

Every river, large or small, derives contributions of soil from the various geological formations through which it passes, and the matters thus collected give their special character to the loamy deposits of the stream. Thus the loams of the Thames Valley differ from those of the Trent, the Trent from the Severn. The Ouse of Yorkshire has its own peculiar character, the Wye and Derwent theirs. The loams of the northern streams are still more distinct, and have each in sand and gravel and soil a record of their course and a suggestion of their quality.

The waters, too, of each river acquire a certain character from the various rocks over which they flow. Passing through some of the gypseous beds of the new red sandstone, the Trent water takes up a certain quantity of sulphate of lime, and the saline properties of other divisions of the formation are communicated to it. The stronger lines of the lias give their carbonates, and the beds of pyrites their iron and sulphur; thus the loamy deposits of a river may be strongly impregnated by its waters, and the loams of each river may have a chemical identity.—P. T. INGRAM.

(To be continued)

THE LONDON PARKS.

In few gardens can there be seen so much diversity in the association of beautiful plants as in the various parks of London. Many lessons may be learned there that can be turned to account in private gardens. It is not by any means suggested that everything to be seen in the furnishing of beds and borders is worthy of adoption. This is a question on which tastes vary; and besides, the several park managers, however skilful, are not, in the very nature of things, infallible. That they maintain the fame of the parks for floral beauty is very much to their credit, seeing that this involves changes in planting, as thousands of the same visitors year after year would not be satisfied with exactly the same methods of furnishing the beds.

More attention appears to be paid to the variety of plants employed than was the case a few years ago. There was a time when a great number of plants of a very few kinds was the rule, and these employed for producing smooth formal masses of colour. Then followed the most artificial of all methods, of "arrangement for effect," known as carpet bedding, but it has to be a very fine "carpet bed" now to meet with anything like general admiration. Though the writer has only seen one of the parks this season, and may not have an opportunity of visiting another, he has observed from time to time in past years that the managers very laudably abstain from copying each other.

It has been said, but with what degree of truth is not known, that they do not even visit the different parks, lest they should be, so to say, unconsciously led into habits of imitation. Be this as it may, it may be suspected that in some way or other they get to know what is "going on" in most of the enclosures, and shape their course accordingly. They are, like other people, entirely justified in gathering fresh ideas where they can, yet it is an advantage that each park should, as far as possible, preserve its individuality. When visitors to the metropolis are on a tour of park inspection they then find something of interest in every enclosure; it is well, therefore, for them to have a look round as many as they can, and the present time onwards for a few weeks the parks will be found in attractive condition.

VICTORIA PARK.

As the largest park of the London County Council, and reputedly one of the most difficult to manage, because of the smoke and sulphur-laden atmosphere of the busy and densely populated "East End," a desire was felt to see what was being done there by Mr. Moorman. A mistake in the route, not infrequently made, has at least one advantage, though it may not be particularly enjoyable to a tired visitor pushed for time. The advantage is in his opportunity for comprehending the size of the park. You turn to "Bradshaw," and see "Victoria Park" Station, then go to Broad Street and "book" accordingly. In less than twenty minutes you are at your journey's end, and as you see a park entrance opposite the station, feel fortunate in arriving so easily. You enter, but perceiving no flowers ask where they are, to be quietly told "at the other end," and you have a mile or two to walk to find them. It may be more, as all depends on the road you take. This may not be the most agreeable route to a foot-sore man in a hurry on a hot day, who finds he has gone about six miles round to reach his destination. If, however, he is a man of leisure, on a pleasant Saturday afternoon he may find the walk interesting. He may see, for instance, thirty cricket matches in operation at the same time, the men in the distance as if jostling against each other, and balls flying in all directions. A dangerous form of recreation it indeed seems, though accidents are said to be rare. On the other side of the road he may see as many lawn tennis matches, but these will not make him shudder. The ground for both has to be kept in the best possible condition by the superintendent, who deposes a staff of men for the purpose. All the marking out is done for the hundreds of players, who are gaining healthy exercise and wholesome relaxation, also training to keep their eyes open and active, to save their heads. This busy scene is in itself interesting. In addition, if the visitor should call at the bathing lake at a fortunate moment, he would see something that cannot be seen elsewhere, and which he would not be likely to forget for many a day.

The lake is of great length; it looks something like $\frac{1}{4}$ mile, smoothly cemented, varying from about 3 feet deep at one end, to 6 or 7 feet at the other, with a broad tiled or cement promenade all round sloping to the margin. Its area cannot be stated, but when emptied for cleansing a continuous run of water day and night for a month through the large supply pipe is necessary for filling it. The lake is enclosed by tree and shrub-clad banks, and quite invisible from the park. It is open for bathing from six o'clock till nine in the morning, and there are always people waiting for their "dip," even during the coldest weather in winter, when the ice is breakable. It is again open for use at 5 P.M., and about five minutes before that hour on a sultry afternoon is the time for a visit. You then see closely squatted round the edge thousands of east-end urchins, more or less dressed, waiting for

the bell. On the first sound the garments fly off as if by magic, a plunge is made all along the line, and in a trice the water is a seething mass of humanity. It is one of the "sights" of London, and must be of enormous benefit to the rising generation. Boatmen are constantly employed to prevent accidents and maintain order. The enclosure is open to all during the day, but the twisting walks embowered with trees round the "old lakes" form the more agreeable promenade during bright hot weather.

Passing on to the flowers from east to west, you may, if lucky, see another sight the reverse of common. The time for this is a perfectly dry hot day, when the schools are closed for the summer holiday. The scene is the sand pit. In the great densely packed area of the surrounding district there are vast numbers of little puny mites of children, who have no room for health and strength-promoting frolicsome exercise at home. They cannot, of necessity, go to the sea, so sand is brought from it in train-loads, and thrown into a great pit, in mounds and hollows, like a sea-coast in Victoria Park. Here they bask, and dig, and burrow, and bury each other. They simply live in it all day long, bringing their bits of food—those who have any, and those who have not trusting to a bite among the rest. It is a veritable moving panorama, enough to make one dizzy to look at. All seem joyously happy, as if care and hunger had no existence. The wonder is they are not choked or blinded with the clouds of sand which they are always casting up over their heads, to fall where it may, but nothing of the kind happens, and they are well looked after by a motherly attendant appointed for the purpose. Thus the park is much more than a pleasant promenade for flower-loving adults, and one shudders to think what would become of the thousands, old and young, of the surrounding population without it. The same may be said in respect to other parks, gardens, and open spaces in and around the far-spreading metropolis. They are boons and blessings indeed to millions, and London would scarcely be "livable" without them.

The flowers are reached at last, and might have been reached much sooner had the visitor booked at Liverpool Street to Cambridge Heath Station, taken a five-minutes walk down Bishops Road straight to the main entrance, near the superintendent's castellated house. He would then have been among the flowers in less time than it took to reach Victoria Park Station by rail, apart from the long walk back again; but as those who go the farthest see the most, regrets need not be indulged in. There are probably more beds, and almost certainly more plants and flowers raised in this park than in any other park or garden in the kingdom. It should be asked of "what kinds?" It may be said in a line—"all kinds, hardy and tender, that can be grown there." If it should be further asked—"What style of bedding is adopted?" the answer would be equally simple—"all styles." Masses and mixtures, long sweeping lines, a little smooth carpeting, and more corrugated mounds of fleshy-leaved succulents, and grotesque formations of the Cactus tribe. The finest specimen plants in the park, or of their kind in any other park known to the writer, are American Aloes, *Agave americana*. They are in robust health, with magnificent leaves, and plant and tub together of several of them can scarcely weigh less than half a ton. They form a striking background to the chief flower garden, known as the "flat," and now in full beauty.

The beds do not seem to have been so closely packed as in some former years, and looked the better for it. Zonal Pelargoniums are not in the overwhelming numbers as in some past seasons, but cannot be entirely dispensed with; while Fuchsias appear to be in the ascendant. Harrison's Musk forms a golden fleecy surfacing to beds also occupied with taller plants. Violas are tastefully associated with Pelargoniums and other plants, and will perhaps be still more extensively grown—at least a few of them, for many are of small use for producing a continuously attractive effect. The value of planting Violas early was strikingly apparent in dense masses of bloom in the hottest part of the park. This, with deeply worked soil, is a golden rule to remember for insuring a long succession of flowers. Much reliance is placed on plants raised from seeds—*Celosias*, Stocks, Asters, Marigolds, Petunias, Phlox, *Salpiglossis*, Verbenas, Zinnias, and others. Glare and glitter is no longer the chief objective, but quiet tasteful combinations and pleasing harmonies are more appreciated.

Flowers in great variety over a long season appear to be the primary endeavour of Mr. Moorman. In the spring his main reliance must be placed on bulbs and Polyanthus, as *Aubrietias*, Forget-me-nots, and many others with which he used to make Dulwich Park so beautiful, melt away at Victoria under the sulphur-laden fogs. In early summer masses of autumn-raised Stocks, Delphiniums, Canterbury Bells, and Sweet Williams make the beds in their season gay, other kinds taking their places, and then still others that come on, followed by early Chrysanthemums. It is a question of some kinds always going out, with reserves of others coming in to take their places, so that "bedding out" is going on to some extent practically all the summer. Regular park visitors, which are numbered by thousands, prefer variety to looking at the same few kinds all the season. They also like a good wind-up with

Chrysanthemums under glass, of which 3000 are in admirable condition. To these, having lost his old grower, Mr. Moorman is giving much personal attention, and as an old grower himself, is not lost among the varieties and their appropriate treatment.

The time to see the enjoyment of the people in the park is on fine Sunday evenings as they cluster round the flower beds and the bandstand. The only charge then is a halfpenny for a seat for the occupants to sit as long as they like to listen to the music, and it is not uncommon for nearly 3000 of the bawbees to be taken in an evening, while ten times 3000 persons are strolling about. An old critical visitor to the park remarked he had not seen it look better and cleaner for twenty-five years. It certainly seemed wondrously neat, clean, and trim, not in the flower part alone, but everywhere. This is something to effect—over 27 acres of roads and paths, miles of edging to be clipped, and leaves falling in shoals. This is the effect of sulphur, which only a few trees can stand. Limes are nearly leafless, Horse Chestnuts rusted to a miserable brown, Elms shrivelling, Sycamore leaves curled as if burnt. The Plane is the tree of trees for the position, while the Ailanthus remains fresh and green, as do Turkey Oaks here and there. The finest evergreens are Hollies, of which there are splendid specimens, especially of *Hodginsi* and *Shepherdi*, while the glossy leaved *Euonymus* is fresh and bright.

As Mr. Moorman truly says, "Victoria Park is not an easy place for gardening." If it were easier than it is it would be a credit to him and all who contribute to its condition and good keeping. He has nearly finished a great work—conducted over three winters—the making of a fine new road and several acres pleasant which before amounted to a waste, besides the road completing the circle of the park. It is a permanent improvement of lasting value, the result of determined and persevering work.—A COUNTRY VISITOR.

ROYAL HORTICULTURAL SOCIETY.

JULY 26TH.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair); Mr. Bennett-Poë, Dr. Russell, Mr. Veitch, Rev. George Henslow, Hon. Sec.

Tomatoes and Sleeping Disease.—Plants suffering from this now not uncommon complaint were forwarded to Dr. W. G. Smith for examination. He reports as follows—"My observations agree with those of Mr. Massee given in the 'Gardeners' Chronicle,' June 8th, 1895. I have already seen several cases of this disease [this season. I do not see an easy way of getting rid of the fungus. Mr. Massee's suggestion of liming the soil seems a good one, but I have had no experience."

Outgrowths on Potatoes.—Mr. Sutton sent some tubers having curious excrescences upon them, received from Mr. Kerr of Dumfries. They were reserved for examination.

Asters Diseased.—Mr. W. P. Wright, of Fairview, Willesborough, Ashford, Kent, sent some specimens, and observes that "Growers of Asters in East Kent, especially in the Dover district, are in trouble over an Aster disease, which destroys thousands of plants. Some go off directly they are put out, others at a later stage. I found small white grubs in the lower part of the stems, and I do not feel any doubt that they are the cause of the mischief." In the "Naturalist," the organ of the Yorkshire Naturalists' Union, there is a paper by Rev. Hilderic Friend on this subject. The worms in question are of the family of *Enchytræidæ*, a group of annelids. Mr. Friend discovered a presumably new form in China Asters, and named it *E. parvulus* on account of its minuteness. A full description of the worm is given in Mr. Friend's paper. There is nothing to be done but consign the plants attacked to the flames. An account of the Aster worm will be found in the *Gardeners' Chronicle* for Aug. 14th, 1897, p. 89, with figure.

Melon with Seeds Germinating.—Mr. Veitch read a letter from Mr. A. McKellar of The Gardens, Sandringham, describing a Melon sent to Marlborough House, which was full of young Melon plants, quite green. They were plunging their roots into the flesh of the Melon and feeding upon it. Similar growths have often been seen in Lemons and Oranges, as well as Cucumbers, Pumpkins, Papaws, and other fleshy fruits. The cause appears to be that the fruit has been kept some time in a warm atmosphere.

AMERICAN TAX ON BANANAS.—There has been no action taken as yet by any committee to urge Congress to tax Bananas. In talking with a leading Chicago merchant in New York a few days ago he said:—"I am not in favour of placing a tax on Bananas. Our house does not handle them, but yet we think that the fruit should not be taxed. It is a poor man's fruit. It does not interfere with California or any other fruit. I believe I am serving our California shippers right when I say that they should leave the agitation severely alone. They are hurting themselves by forcing a tax. Fruit merchants everywhere handle Bananas as well as California fruit, and by urging a tax the California people are borrowing trouble. I do not believe we would get 1 cent more for Apricots, Peaches, or other fruit even if they taxed Bananas 2 dollars per bunch. I have declined to serve on any committee which is intended to urge the tax."—("Fruit Trade Journal.")



WEATHER IN LONDON.—There can be no doubt that holiday makers will have been perfectly satisfied with the weather on Saturday, Sunday, Monday, and Tuesday, for during those days it was all that could be desired. Friday was very cold, with occasional showers in the metropolis. On Thursday rain fell heavily during the afternoon. At the time of going to press on Wednesday it was bright and warm.

— ROYAL BOTANIC SOCIETY.—At the annual meeting of the Royal Botanic Society, to be held in the gardens on August 10th at 1 P.M., Mr. J. S. Rubinstein will propose:—1, "The establishment of classes for the study of botany, to be open to all students;" 2, "The reorganisation of the refreshment department, and the obtaining of a license for the restaurant newly built in the gardens;" and 3, "The erection of a large floral hall, to serve as a winter garden, and wherein exhibitions, flower shows, receptions, and musical promenades can be held in all seasons and in any weather."

— CARDIFF SHOW.—Mr. Harry Gillett writes:—"In your report of our annual show, in your issue of the 28th ult., I find one or two errors, and shall be much obliged if you will kindly correct same. The winner of the first prize for a small group was W. J. Buckley, Esq., of Llanelli, not Llandaff, and instead of three groups there were four. The silver cup for the best stove or greenhouse plant to amateurs not employing a regular gardener was taken by Mr. J. Ansaldo, Cardiff, and not by Mr. J. Lockyer. For the six bunches of Grapes the first prize was won by Mr. H. A. Joy, gardener to R. A. Bowring, Esq., The Heath, Cardiff, and not by Mr. H. Hollingworth."

— MIGNONETTE FOR POTS.—Sow seeds now of a dwarf variety of Mignonette for flowering in pots in spring. Two excellent varieties are Miles' Hybrid Spiral and Sutton's Pot Mignonette. Employ 5 or 6-inch pots, which the plants may flower in. Drain efficiently, and make the compost very firm. The latter should consist of good loam and leaf soil in equal parts, half a part of dried cow manure, and the same quantity of sand. Scatter the seeds thinly and cover lightly with fine soil. Place in cold frame and shade from sun, maintaining the soil just moist. Finally thin out the seedlings to half a dozen. Grow the plants in the frame close to the glass as long as possible.—E. D. S.

— MALMAISON CARNATIONS FROM LAYERS.—This is a lovely Carnation for greenhouse or conservatory decoration, and has also lived outdoors here. Most of Mr. Brotherston's remarks, page 47, as to layering, are useful and judicious; but when grown for pot culture I have found this system excellent. After flowering, and when the side shoots are strong and well matured, say in July, I prepare a good rich loam in the open border full in the sun, take the plants out of the pots, not disturbing the roots or the ball of earth, and put them in a hole in which the plant will fit, the intended layers resting on the surface, when they can be easily pegged into it. This fresh and prepared medium gives a new start to growth and strong-rooted plants can be lifted in the autumn, and I have taken up the old plants also rejuvenated.—W. J. MURPHY, Clonmel.

— PRESENTATION TO MR. N. N. SHERWOOD.—At the invitation of Sir William Farmer, the Master, the members of the Gardeners' Company and their friends visited Ascot Place, Winkfield, recently. Luncheon was served on the arrival of the guests, and on the conclusion of this function, says a contemporary, the Master expressed the pleasure that it gave him to welcome the members of the Company. He then, in a few words, presented Past-Master Sherwood with an illuminated address, as follows: "The Court of Assistants of the Worshipful Company of Gardeners in presenting a past-master's badge to Nathaniel Newman Sherwood, Esq., desire to place on record their high appreciation of his services as Master of the Company for the two years 1896-7, 1897-8. His willingness to promote the interests of the Company, combined with the genial but firm occupancy of the chair and unbounded hospitality, has endeared him to his colleagues, who, on his retirement from the mastership, wish him long life and continued prosperity." Mr. Sherwood replied in an equally brief speech, and testified to the pleasure it had given him to preside over so important a Company as the Gardeners for two years in succession.

— ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Society will be held in the Drill Hall on Tuesday, August 9th. The Committees will meet at noon, and at 3 P.M. a paper on "Water Lilies" will be given by Mons. Latour Marliac.

— GARDENING APPOINTMENT.—Mr. Thomas Lewis has been appointed head gardener and superintendent of the pleasure gardens and skating rink at Folkestone. Mr. Lewis was during the past three years with C. Eastwick Field, Esq., Hurst House, Midhurst, in a similar capacity.

— BRIGHTON HORTICULTURAL SOCIETY.—We are informed that the summer exhibition of this Society will be held on Tuesday and Wednesday, August 23rd and 24th. It is usually very successful, and charming displays are brought together. The Chrysanthemum Show will be held on November 15th and 16th, which we believe is considerably later in the month than the show is generally held.

— JULY WEATHER AT DRIFFIELD.—Mean temperature at 9 A.M. (corrected), 59.96°; wet bulb, 54.97°. Mean maximum, 66.42°; mean minimum, 48.02°. Highest, 75.2° on the 17th; lowest, 38.5° on the 14th. Mean of maxima and minima, 57.22°. Mean radiation temperature on the grass, 44.40°; lowest, 33.0° on the 20th. Rainfall, 0.515 inch. Number of rainy days, nine. Greatest amount on one day, 0.145 inch on the 28th.—W. E. LOVEL, *Observer, York Road, Driffield*.

— SUSSEX RAINFALL.—The total rainfall at Stoneburst, Ardingly, for July was 0.62 inch, being 2.05 inches below the average. The heaviest fall was 0.19 inch on the 1st and 22nd. Rain fell on six days. The maximum temperature was 87° on the 16th (the highest this summer), and the minimum 45° on the 11th and 14th. Mean maximum, 75.15°; mean minimum, 52.22°. Mean temperature, 63.68°, which is 1.72° above the average. A dry month with hot sun, the thermometer rising to 80° or above it on nine days. Thunder and rain to west on 27th, but none here.—R. I.

— PROTECTING GARDEN AND ORCHARD FROM BIRDS.—Every thoughtful or observant person must admit that as an insect destroyer a bird is the best of friends to the orchard and garden; yet bird depredations are often so great in the berry and fruit seasons that the owner of orchards or gardens finds it necessary to protect himself by destroying his otherwise helpful little friends. With a little forethought and observation he could spare his friends and save his fruit as well. A row of Mulberry trees near an orchard will furnish fruit for all the birds that are in the neighbourhood. The trees are inexpensive and of quick growth, and the fruit is preferred by the birds to any other. With Mulberries at hand Cherries, Strawberries, and Blackberries will not be molested. The expense will more than be made up by the fruit saved from the birds, who are Nature's protectors of fruit, tree, and Vine from their insect foes.—("American Gardening.")

— CARNATIONS AT SOUTH PARK, REIGATE.—When, a few years since, Mr. Funnell, gardener to the then Mrs. Charrington, now Mrs. Hadley, obtained a packet of Carnation seed from the National Carnation Society, of which he is a member, and raised from it a number of excellent varieties, he doubtless, even then, little imagined that the result would be in a year or two the possession of several hundreds of Carnations, mostly seedlings, and nearly all of very fine and beautiful forms. Doubtless the effect upon him and his employer is that which early Carnation culture creates upon all who embark in it, for the flowers are so beautiful, so sweet, and so fascinating. When I looked in to the South Park gardens a few days since I found several huge beds in the kitchen garden, as well as in another part near the pleasure grounds, the plants all gloriously blooming and in great variety. Most of these beds were protected from the sun by thin awnings, and well is the trouble repaid in the exceeding freshness and beauty of the flowers. All the plants were in the ground. Mr. Funnell has many fine seedlings, and one begins to wonder, if many persons are raising seedlings in the same way, where naming is to end. Certainly there are scores of old varieties that may now be destroyed. Mr. Salter just across the way at Woodhatch has a wonderfully fine lot of plants in beds not shaded, but he realises the need for such shelter. His new Scarlet Isinglass is indeed a superb variety. There had been a Carnation show close by at Red Hill the previous day, and when at the local South Park show, in company with gardeners and amateurs who saw the Carnations, I had to hear warm denunciations of what was regarded as the fraudulent dressing of flowers, tearing down the calyx, pulling open the petals, pulling out others, and even the anthers and pistil, and really making the blooms artificial rather than real. It is about time such degrading practices were stopped, they are a disgrace to floriculture.—D.

— **DIVIDING PRIMROSES AND POLYANTHUSES.**—Failing young seedlings, old plants of Primroses and Polyanthuses may be divided and replanted now. The old leaves may be cut off entirely, without any detriment to the crowns, which will soon push fresh leaves. Trim back the roots, and fresh fibres will develop close under the crowns. They like moist rich soil and a shaded position.—E.

— **MAIDENHAIR FERNS IN THE SUN.**—The Maidenhair Fern (*Adiantum cuneatum*) may be fully exposed to the sun if not stood too near the glass. It does not need artificial heat now, and plants will be better in an airy conservatory than in a close moist atmosphere, especially if fronds are wanted for cutting. Regular moisture at the roots is very essential, and greatly assists the plants in enduring increased light with advantage.—S.

— **DUTCH HORTICULTURAL AND BOTANICAL SOCIETY.**—The Floral Committee, at a meeting on July 13th, 1898, awarded first-class certificates to Mr. C. Kwint, of Bloemendaal, for *Begonia tuberosa* fl.-pl. *cristata*; to Messrs. E. H. Krelage & Son, of Haarlem, for *Begonia tuberosa* fl.-pl. *Orange Ball*, B. t. fl.-pl. *Souvenir de Pierre Notting*, *Calochortus Gunnisoni*, and *Petunia "Sneeuwbal"*; and to Mr. C. G. van Dijk, of Zeist, for *Schubertia grandiflora*. Also certificates of merit to Messrs. H. Krelage & Son, of Haarlem, for *Ageratum Blue Perfection* and *Helenium Bigelowi*; with botanical certificates to Messrs. E. H. Krelage & Son, of Haarlem, for *Calochortus obispoensis* and *Lilium elegans Alice Wilson*.

— **AUSTRALIAN ORANGES IN ENGLAND.**—The present bank holiday season will witness the arrival of a shipment of Australian Oranges consisting of some thousands of boxes, most of them going direct to one firm in Covent Garden. All through August and September weekly shipments are to arrive, and it is said that fully 30,000 boxes will be marketed. This new development of Australian trade is due to the Government of New South Wales, where most of the fruit is grown, who, two years ago, sent an experimental shipment of nearly 1800 boxes, which brought splendid prices, owing to the excellence of the Oranges. It seems extremely probable that Australian Oranges will thus become as popular here as Tasmanian Apples. Experts declare the Australian Orange to be equal to the best European.

— **TRADE MARKS.**—This appeal (before the Master of the Rolls, Lord Justice Chitty and Lord Justice Collins) raised a question of considerable importance under the Patents and Trade Marks Acts—viz., as to the right of a dealer in goods of various descriptions to register a trade mark for goods in which he does not deal, and has no definite intention of dealing. The appeal was brought by Mr. Kottgen, trading as J. Batt & Co., in the name of the firm from an order of Mr. Justice Romer expunging two trade marks from the register (see the "Times" of April 23rd). One trade mark, No. 27,850, was registered in July, 1882, in the name of J. Batt & Co., for several classes of goods, including class 42. The other trade mark, No. 72,790, was registered in August, 1888, in the same name, for class 42 alone. Both trade marks consisted of a butterfly with open wings. Class 42 was as follows:—"Substances used as food or as ingredients in food." Messrs. James Carter & Co., the well-known seed merchants, applied to register a butterfly with closed wings for Oats, which were comprised in class 42. The Comptroller refused the application on the ground that there were already on the register the butterflies of J. Batt & Co. for class 42. Thereupon Messrs. Carter & Co. applied to expunge these marks. The main ground for expunging them was that J. Batt & Co. never dealt in goods in class 42, and were not justified in registering any trade mark for goods in that class, and the learned Judge, in ordering the marks to be removed, proceeded upon that ground.—("Times.")

— **POTATO DISEASE IN IRELAND.**—We very much regret to learn that the Potato blight has already made its unwelcome appearance over a considerable portion of the West, and that in many districts the unmistakeable discolouration of the foliage by which the progress of the disease is accompanied is very frequently to be seen. A correspondent who has just returned from that part of the country tells us of the crop in many gardens in the Co. Sligo being already "quite black," and from Galway and Mayo we also hear of the fungus being at work, particularly among early Potatoes. A word of warning will not be out of place with reference to the spraying of the Potato crop. Information has reached us to the effect that in many districts farmers are purposely refraining from giving their Potatoes a second dressing of the sulphate of copper solution on the strength of the continued immunity of the crop from disease, and on the chance of the plants pulling through even should the fungus appear. No more mis-

taken course could be adopted. Since the first spraying took place—even though not a drop of rain may have fallen in the meantime—there will have been a considerable growth of new haulms and leaves, all of which would act as suitable ground for the development of the disease should conditions favourable to the germination of the fungus spores set in. And who can tell when the close, damp weather favourable to such fungoid activity may set in, and the disease thus be afforded every facility for its rapid development? Should such a change in the weather take place—and as we write the outlook is none too reassuring—the labour and expense incurred in the first spraying will have been practically thrown away, and farmers will have the mortification of seeing all their efforts at protecting the crop go for next to nothing. Economy such as that effected by withholding this second dressing of the Potato crop is very short-sighted economy.—("Irish Farmers' Gazette.")

AUSTRALIAN HORTICULTURE.

PERHAPS no portion of the world (observes an experienced writer), of the same area, is better favoured than New South Wales, with its varied climates and soils, for the production of fruits, vegetables, and flowers. It is really surprising how great a variety can be grown to perfection, and at a minimum expenditure of labour. Exotics from cold, temperate, and even tropical countries thrive equally well within the limits of this comparatively small area; and still more remarkable is the fact that so many of these plants from different climates will grow side by side in many favoured localities.

With all these advantages it seems strange that comparatively little attention should be devoted to the raising of vegetables for home use, or to the cultivation of flowering and ornamental plants for the adornment of the home of the settlers in the country districts. Occasionally one may meet with a well-cared-for beautiful garden, like an oasis in the wilderness; but, as a rule, few attempts are made even to grow the commonest vegetables for family requirements, and dependence for supplies is placed on Chinese gardeners, whose gardens are generally to be found dotted about the country, especially in the more largely populated districts. The raising of vegetables, the selling of fruit, and the hawking of goods would seem to be almost entirely in the hands of the Chinaman, the Italian, the Syrian, and the Indian; despite the fact that a considerable proportion of the white colonial population consists of unemployed men tramping through the country in search of work, and dependent on the hospitality of the settlers.

Considering the little difficulty there is, in most seasons, in producing a sufficiency of fruits and vegetables for a family's requirements in most parts of the colony, it is incomprehensible that the settlers or farmers do not grow everything they need. Instances have been known where vegetables were brought hundreds of miles to localities in which the same kinds could be grown to perfection with little trouble. In some cases Chinamen will travel from forty to fifty miles carting vegetables to settlers who have soil sufficiently rich to grow all they need, if they took the trouble to devote but an hour or two each day to the work.

In the neighbourhood of Sydney flower gardening has been made a remunerative occupation by reason of the growing demand for bouquets, wreaths, and floral ornaments, but the continual expansion of the metropolitan suburbs is driving the older nurseries farther afield. A considerable business is done by nurserymen and florists in Palms of various kinds, especially *Kentia Belmoreana*, which is indigenous to Lord Howe Island, and succeeds admirably in gardens about Sydney, and when planted with Tree Ferns grows freely and quickly, and is wonderfully effective.

The bush house is one of the most useful of structures in connection with the garden in all the warm parts of New South Wales. In it a multitude of plants can be grown which would be liable to perish in the hot sun. It can be, and is, constructed of all sorts of material, sometimes Tea Tree brush, laths, bamboo blinds, and indeed anything that will break the rays of the sun without altogether obstructing them. In numerous gardens about the metropolis and large towns there are glass buildings where tender exotics of climates warmer than that of New South Wales are grown as successfully as in any part of the world. Everything indicates that the colonial taste for floriculture is improving rapidly, and will continue to improve—a result due in some measure to the fact that there are many excellent gardeners, professional and amateur, in the colony. A large proportion of the Potatoes and other vegetables consumed in New South Wales is imported from Victoria, where market gardening is more largely in the hands of white men than in the older colony.

The vegetable products of Chinese gardens are mostly of poor quality, insipid and watery, owing to the peculiar method of overwatering and overmanuring adopted. Although these vegetables are of such inferior character they are absolute blessings in many places where the colonists either will not or cannot grow those they need. Vegetables of excellent quality can be produced, even in dry districts, with little irrigation, if they be properly managed; but unless a Chinaman has a superabundance of water he is lost. With a fair supply of water and experienced labour almost every description of vegetable known in Europe or America can be grown with ease, generally yielding abundant crops.—J. PLUMMER, Sydney, N.S.W.

BRAMHAM PARK.

THE title of these notes will bring two distinct things to mind, according as the reader is a horticulturist and arboriculturist, or a hunting man from that particular quarter of the broad-acred shire. If he come within the former category he will immediately call to mind the magnificent hedges and trees which abound on the estate; while if he belong to the latter class, his thoughts will turn to the Bramham Moor hounds, whose home is and has been for many years at Bramham Park. With these latter we have nothing whatever to do, as it is proposed to refer to the gardens and pleasure grounds of the estate only, and at the outset it may be said they are well worthy of such reference as can be given, for they are exceptional in more respects than one. The visit was made under the guidance of Mr. H. J. Clayton, the well-known head gardener at Grimston Park, who kindly drove me to Bramham about the middle of June, and thus gave me a most delightful outing.

A start was made from Grimston, and our progress was through very historic country. For example, we crossed the Cock Beck, which,

before, behind, there were Rhododendrons, and for my own part I never saw any that I admired more. There must be thousands scattered about, and except those bordering the several avenues there had been no attempt at systematic planting.

It was in the valley, and towards the lower portions of the hill, that the Rhododendrons and the Oaks were so grand. As we ascended to the higher ground the Oaks became poorer, and the Rhododendrons ceased entirely ere the brow was reached. In places beneath the trees bracken luxuriated. When we were on the top of the hill we stopped to admire two avenues which, fine though they undoubtedly are, would have been much finer had more space been allowed when the planting was done. One of these is comprised of Copper Beech, and the handsome leafage made a beautiful picture, though it lacked depth, for the trees practically met across the grass of the walk. The second avenue was of variegated Sycamore, and as the growth of the trees had been full and even it made a splendid contrast to the Beeches at the point of junction. The same fault with these, close planting, was again all too plain.



Photo. by Mr. John Muffett,
Boston Spa, R.S.O., Yorks.

FIG. 16.—VIEW IN BRAMHAM PARK.

tradition says, ran red with blood for thirty hours after the battle of Towton in the days of the Wars of the Roses. Now there is only a small current with, in the summer, scarcely strength to crawl along; but in those "good old days" (?) it was, though never of great size, a considerable stream. Nothing could wear a more peaceful aspect than does this neighbourhood in the present day. It was comparatively close to here, too, that the stone was quarried from which York Minster was built, and whence all that is required for repairing is still taken. Mr. Clayton's knowledge of these interesting facts made the time pass quickly, and ere we realised it the five or six miles of road had been traversed, and we were at one of the entrances of Bramham, but still far from the beauties we so much anticipated seeing. Gate after gate was opened and shut ere the lodge was reached and we entered upon the first examples of tree-planted ground.

The spectacle that greeted us was a most delightful one, and drew forth repeated expressions of admiration. Save for the handsome Oaks on every hand, the avenues of Chestnuts flanking the green drives that radiated from a common centre, the eyes were met by nothing but huge masses of *Rhododendron ponticum*. In one place there would be an immense clump a score or more yards through, and 12 or 15 feet in height, while in other places beneath the trees single plants were growing and flowering with magnificent freedom and telling effect. On the right, on the left,

From this point we commenced to descend across the splendid park, which would make a congenial home for deer. Here and there were "aged Thorns," clothed with pink and white flowers, which lent additional charm to an already fair pastoral picture. The Thorns appear to have flowered with the greatest profusion in many places this season, and the blooms at Bramham were not only numerous but of unusual size. A few Oaks, too, were observed, and very greatly they varied in stature. Continuing our way across another valley we recommenced ascending, and were quickly within the charge and at the home of the gardener in chief, Mr. Arthur Freshwater, whom we found waiting to show us the pleasure grounds and gardens that he tends so well. We had a short rest, however, before starting for "fresh fields and pastures."

There is no mansion of Bramham, it having been destroyed by fire about seventy years ago and never rebuilt. The proprietor of this lordly domain, George Lane Fox, Esq., resides a mile or two away, and leaves the ruins of his former home to add interest to the place. The lawns fronting the terrace on which the mansion stood, with their backing of evergreens, Rhododendrons, Oaks, and other trees, are picturesque in their simplicity, and would suffer if beds of certain shape were cut out on the soft green grass. It was necessary, before the Rhododendrons would thrive in this position, to make the ground, but now they appear to be quite at home—almost as much so, indeed, as those to which reference

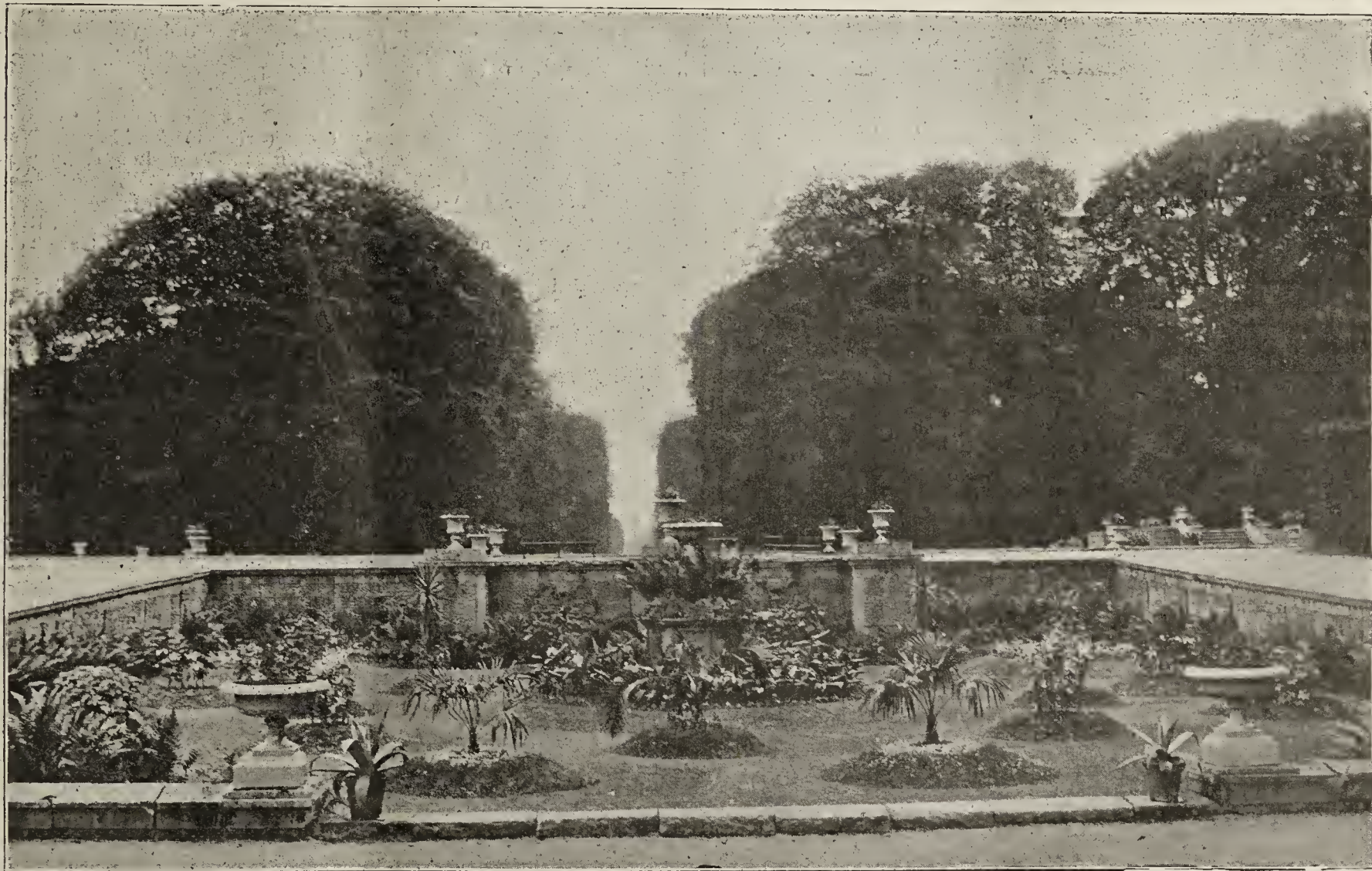
has been made. The neatness of everything would, perhaps, cause surprise to many people who know of the owner not living there; but it serves to show that his interest in the home of his forefathers has not diminished, even though he has sought another roof for himself.

Perhaps the most remarkable feature of the estate is found in the hedges, many of which are quite 20 feet in height. These are very numerous, in fact several miles, measuring both sides, have to be well kept and neatly clipped. It is clear to see that some definite plan has been followed in their formation, but what it may have been it is impossible to say. Some distinct resemblance may be caught of portions of the planting at Versailles, but whether the celebrated French garden was actually copied I am not prepared to say. These hedges, which are entirely of Beech, extended from a central place in all directions, and through them in the distance are some charming views. The labour involved in keeping them in order must be tremendous, and that they receive proper attention is proved by their condition. What is the exact extent Mr. Freshwater could not say, though he was quite convinced that it must mount into miles.

There can of course be no doubt that very many persons would fail to

Standing near the water in the front of the picture close to the larger of the two *Agapanthus* shown the effect is very good. What is known as the T pond is contiguous to the ruins of the mansion, and is a piece of water with broad walks on each side beneath the towering trees. It was delightfully cool on the hot afternoon when this visit was paid, the shade of the trees being most welcome after the brightness of the sun. At or in the distance beyond some of these avenues are handsome stone monuments that seem to add finish to the views. One of these in the central space towards which the several broad, hedge-flanked walks converge is most handsome. It is surrounded by a stone seat, and from here the best appreciation of the extent of the hedges can be got. One of the loveliest scenes showed the *Rhododendrons*, of which mention has been made, as a simple mass of colour beneath the trees beyond the wide and undulating park.

The subtropical garden (fig. 17), by the same photographer, is very much handsomer than anyone might suppose, and is, as a matter of fact, most interesting. As may be seen, it is enclosed by three walls, of which the two side ones have a gradual fall towards the normal level in the front, and here may be found a very extensive collection of what are



Photo, by Mr. John Maffett,
Boston Sp., R.S.O., Yorks.

FIG. 17.—THE SUBTROPICAL GARDEN, BRAMHAM PARK.

admire these hedges on account of their formality; but it must be borne in mind that when Bramham was formed the taste in gardening ran in a groove which demanded that everything should be prim, precise, and of set design. These points have undoubtedly been achieved, and an individuality has been given to the place that it probably could not otherwise have attained to. There they are, and they are likely to remain, as it would be a great pity to destroy them now that they have grown to such noble dimensions simply because they are not in the prevailing taste. Their evenness is remarkable, gaps and breaks being exceedingly rare, and where they have occurred and attempts have been made to fill them by replanting young trees, failure has invariably accrued. The only thing that can be done is to lay in branches from the trees on each side and endeavour to cover the defects; but as has been said, these are few, and consequently little of this work is entailed. High steps surmounted by a square platform have to be requisitioned for trimming the hedges, which is an operation that extends over several weeks.

Passing along one of the hedge-formed avenues with great trees of various kinds above our heads we reached the small stone structure, shown at the back of the illustration (fig. 16), which we have reproduced from a photograph by Mr. J. Maffett. The broad central walk leading down to the lake is flanked on each side with grass, in which beds are cut, these being stocked with *Pelargoniums*, *Begonias*, *Ageratums*, *Coleuses*, and many other kinds that will suggest themselves to the practical reader.

termed subtropical plants. The *Palms*, *Dracenas*, *Agaves*, and *Castor Oils* all show fairly well in the illustration, but it is needless to say they look far better in the life. Every one is in excellent health and quite clean, the form of the garden showing them off to the greatest possible advantage, while the background of noble trees is of material assistance in making the picture more complete and interesting. Considering the facilities at command for storing and raising tender plants, we think this little section of the ground a very great credit indeed to Mr. Freshwater, who obviously makes the most of what he has.

Bearing in mind the fact that there is no mansion at Bramham, it could not be expected that the glass structures would be numerous. Certainly there are very few of them, but they were all well filled with healthy flowering and foliage plants, the collection of scented *Cape Pelargoniums* being particularly excellent. The vegetable gardens are decidedly good, and comprised splendid quarters of all needful kinds. One of the gardens, devoted mainly to vegetables, is situated in the midst of a plantation, but notwithstanding the trees with which it is quite surrounded, it is made, by good cultivation, to yield a large quantity of valuable produce. It is a most secluded spot, that would be, perhaps, more suitable for a wild garden than for the purpose to which it is now put. More might be said of Bramham and its beauties, but now, with a word of thanks to Mr. and Mrs. Freshwater, we must draw to a close, and return homewards with our guide to Grimston.—H. J. WRIGHT.

HORTICULTURAL SHOWS.

NATIONAL CARNATION SOCIETY.—JULY 27TH.

THIS popular Society held its annual exhibition on Wednesday, July 27th, at the Crystal Palace. The show was originally fixed for the 20th ult., but owing to the season had to be postponed for a week, and the result perfectly justified the step. Taken as a whole the show was one of the best the Society has ever held, and certainly the finest during the last few years. Every section was splendidly represented, and the quality of the blooms shown was decidedly above the average. In almost the whole of the classes the competition was wonderfully keen, there being upwards of a dozen entries in several of the smaller ones. Mr. T. E. Henwood, the Honorary Secretary, was indefatigable in his endeavours to make everything run smoothly, but more assistance from the committeemen should be accorded to him. We give below the prizewinners in some of the principal classes. Miscellaneous exhibits, "not for competition," were staged by Messrs. Henry Eckford, Wm. Cutbush & Son, F. G. Foster, and J. Douglas.

Mr. M. Rowan, Clapham, secured the premier award in the class for twenty-four bizarres and flakes in not less than twelve distinct varieties. The flowers were fresh and bright in colour, the varieties being J. S. Hedderley, Robert Lord, W. Skirving, R. Houlgrave, George Melville, Merton, G. Lewis, Constance Graham, Admiral Curzon (premier bizarre), Sarah Payne, John Buxton, Master Fred, Mrs. Rowan, and Sportsman. The second position was assigned to Mr. J. Douglas, Great Bookham, who staged some beautiful flowers of William of Wykeham, Guardsman, Agricola, Gordon Lewis, Flamingo (premier flake), Duke of York, and Mrs. Douglas. Mr. Chas. Turner, Slough, was third, and Mr. C. Blick, gardener to Martin R. Smith, Esq., Hayes, fourth.

For twelve bizarres and flakes, dissimilar, Messrs. Thomson & Co., Birmingham, were first with charming examples of Merton, J. S. Hedderley, Gordon Lewis, Guardsman, Master Fred, Vulcan, Sportsman, Lord Salisbury, Magpie, J. D. Hextall, Robert Houlgrave, and Mrs. May. F. A. Wellesley, Esq., Woking, was second, and his hest were Guardsman, Thalia, and Lady M. Currie. C. Phillips, Esq., Bracknell, was a good third, and Mr. J. Walker, Thame, fourth. For six distinct bizarres and flakes, Mr. A. R. Brown, Handsworth, went to the front with Merton, Robert Lord, Evan Edwards, Rob Roy, J. S. Hedderley, and Sportsman. F. Hooper, Esq., Bath, was second; Mr. G. Chaundy, Oxford, third; and J. Loveder, Esq., Bristol, fourth, each showing creditably.

In the class for twenty-four self Carnations, not less than twelve dissimilar, Mr. C. Blick staged grandly, and received the chief prize. The varieties comprised Mrs. Gray Buchanan, Cecilia, Kelpie, Falcon, Helmsman, Bomba, Exile, Miss Judith Harbord, Friar Tuck, Purity, Torrida, Joan of Arc, Cordelia, Firebrand, Sir Beveys, Enchantress, Hildegard, Sir Francis Drake, and Mrs. Archie Newman. Mr. J. Douglas was second with smaller but very bright and well-formed flowers, none of which were named. Mr. C. Turner was third, the exhibit including a few weak flowers. Mr. M. Rowan was fourth, and A. Smith, Esq., Downley, a poor fifth.

Messrs. Thomson & Co. went ahead in the class for twelve selfs, distinct, and the position was splendidly won. The varieties were Her Grace, Exile, Mrs. Eric Hambro, Seedling, Germania, James Douglas, Britannia, Ruby, Seagull, Nabob, Lady Mary, and Percy. Mr. C. Phillips was second with good blooms of Regina, Unique, Mrs. Eric Hambro, and a fine fiery scarlet seedling. Mr. A. J. Rowberry, South Woodford, was a fair third; and F. A. Wellesley, Esq., fourth. Mr. A. R. Brown was first for six selfs, distinct, with Royalty, Mrs. Eric Hambro, Miss Audrey Campbell, Mrs. J. Douglas, Negress, and a tinted seedling with fine petals. W. Garton, jun., Esq., was second with good blooms; R. C. Cartwright, Esq., third; and Mr. A. Chatwin, Edgbaston, fourth.

For six blooms of any self Carnation Mr. C. Blick showed Cecilia in superb form, and was accorded the first prize. The premier self in the show was in this stand. Mr. J. Douglas, with Mrs. Eric Hambro in fine form, was second; Mr. C. Phillips, with Regina, third; and R. C. Cartwright, Esq., with Niphetos, fourth.

Mr. A. J. Rowberry was first for twelve Fancy Carnations, distinct, with Cardinal Wolsey, Orestes, Monarch, Ceres, Phœbus, Dervish, Ladas, two seedlings, a sport from Monarch, and a sport from Cardinal Wolsey. The flowers were of splendid quality throughout. The second prize stand from Mr. C. Phillips was also fine, Lady Walsh, Lily Henwood, Distinction, and a yellow ground seedling being prominent. Mr. J. Walker was third, and Mr. H. W. Weguelin fourth. For six Fancies Messrs. Thomson & Co. were first with Cardinal Wolsey, Voltaire, Golden Eagle, Monarch, Miss Maud Hill, and Socrates, all in splendid condition. J. W. Foulkes, Esq., Chester, was a good second, and S. A. Went, Esq., Thames Ditton, third.

Mr. C. Blick with Hidalgo was first for six Fancies of any one variety, the flowers being superb. Mr. R. W. Jones was second with Golden Eagle, Mr. J. Douglas third, and A. C. Cartwright, Esq., fourth. Mr. C. Blick was a splendid first for twenty-four Fancies in not less than twelve dissimilar varieties. The stand was almost perfect. The varieties were Aglaia, Muletter, St. Gatien, Goldylocks, The Cid, Merry Duchess, Regenade, Allegro, Electra, Maid of Honour, Fairy, Gethen, Guinevere, Persimmon, Alexander, Lord Lieutenant, Zingari, Don Carlos, and Hidalgo. Mr. C. Turner, with an even exhibit, took the second prize, Mr. J. Douglas the third, and A. Smith, Esq., the fourth.

For a single Fancy Carnation Messrs. Thomson & Co. were first with Voltaire; Mr. R. C. Cartwright second with Monarch; Mr. A. R. Brown third with Eldorado; Mr. R. Cartwright fourth with Cardinal Wolsey; Mr. R. Sydenham fifth with Golden Eagle, and Mr. G.

Chaundy sixth. For a single white bloom Mr. R. Sydenham was first with Mrs. Eric Hambro; Mr. J. Douglas second and fourth with The Briton; Mr. R. Sydenham third with Crystobel; Mr. A. R. Brown fifth with Mrs. Eric Hambro, and Mr. E. Charrington sixth with Condor. For a single rose or pink bloom Mr. R. Sydenham was first with Exile; Mr. A. R. Brown second with Royalty; Mr. H. Weguelin third and fourth with Perfection; Mr. A. R. Brown fifth with Mrs. T. Helliwell, Mr. A. Sparling sixth with Coral. For a single scarlet, red, or crimson Mr. H. Weguelin was first with Mrs. J. Douglas; Mr. J. Douglas second with The Cadi; Mr. H. Weguelin third with Lady Hindlip; Mr. J. Douglas fourth with Mrs. J. Douglas; Mr. R. Sydenham fifth with the same variety, and Mr. E. Charrington sixth with Mrs. Henry Martin. For a single maroon or purple Mr. A. R. Brown was first with Uncle Tom, and second with Mancunian; Mr. J. Douglas third with Sable; Mr. J. W. Foulkes fourth and fifth with Mephisto, and Mr. J. Douglas sixth with Sir Henry Irving. For a single yellow bloom Mr. A. R. Brown was first with Miss A. Campbell; Mr. J. Douglas second and fourth with Miss Wilmott; Mr. C. Phillips third with Regina; Mr. A. Greenfield fifth with Phillipia, and Mr. E. Charrington sixth with Regina. For a single buff Mr. C. Turner was first with Mrs. R. Hole; Mr. A. Sparling second and fifth with The Dyak; Mr. J. Douglas third and fourth with Midas, and Mr. H. Weguelin sixth with The Beau.

Mr. C. Turner secured the premier position for twenty-four white ground Picotees, not less than twelve dissimilar, with beautiful examples of Acme, Favourite, Mary, Clio, Brunette, Madame Richer, Duchess of York, Mrs. Payne, Mrs. Gorton, Little Phil, and several seedlings. Mr. J. Douglas was a good second, and Mr. M. Rowan third. For twelve distinct white ground Picotees Messrs. Thomson & Co. were first with Brunette, Favourite, Somerhill (premier), Mrs. Payne, Mrs. Gorton, Mrs. Sharp, Mrs. Openshaw, Miriam, Lady Louise, Thomas William, Isabel Lakin, and Medhurst's Seedling. F. A. Wellesley, Esq., was second, and Mr. H. Weguelin third. The three chief prizewinners in the class for six white ground Picotees were Messrs. A. R. Brown, R. C. Cartwright, and C. Phillips in the order in which their names are here given.

Mr. C. Blick was first for twelve yellow ground Picotees with Lily, Duchess, Badminton, Dinorah, Volage, Vampire, His Excellency, Wanderer, Hygeia, Edith, Lady Bristol, Duke of Alloa, and Fashion. The specimens were superb. Mr. C. Turner was second, his specimen of Mrs. Douglas being the premier yellow ground. Mr. J. Douglas was third. For six yellow grounds Mr. G. Chaundy was first, Messrs. Thomson & Co. second, and Mr. S. A. Went third.

The classes for single specimen bizarres and flakes were keenly contested, and some of the blooms were of exceptionally good quality. For a single scarlet bizarre Mr. R. Sydenham was first, Mr. A. Chatwin second, and Mr. C. Turner third, each showing Robert Houlgrave. Mr. R. Sydenham was fourth with Robert Lord, Mr. M. Rowan fifth with Admiral Curzon, and sixth with Robert Houlgrave. For a single crimson bizarre Mr. R. Sydenham was first and second with Master Fred, Mr. C. Phillips third and fourth with J. S. Hedderley, Mr. M. Rowan fifth, and Messrs. Thomson & Co. sixth with the last named variety. For a single pink bizarre Mr. R. Sydenham was first and fourth, Mr. M. Rowan second and third with Wm. Skirving, Mr. A. R. Brown fifth with George Rudd, and Mr. C. Turner sixth with Arline.

For a single purple flake Mr. M. Rowan was first with Gordon Lewis, and second with George Melville. Mr. R. Sydenham was third and fourth with Magpie. The fifth and sixth prizes were not awarded. For a single scarlet flake Mr. R. Sydenham was first and second, and Mr. A. R. Brown third with John Wormald; Mr. C. Phillips was fourth and sixth, and Messrs. Thomson & Co. fifth with Sportsman. For a single rose flake Mr. A. R. Brown was first and second with Merton, Mr. M. Rowan third with Mrs. Rowan, Messrs. Thomson & Co. fourth with a seedling, and Mr. R. Sydenham fifth and sixth with Mrs. Rowan.

The single bloom classes of Picotees were very interesting, and many splendid flowers were to be seen from numerous cultivators. For a single red, heavy edged, Mr. A. Chatwin was first, Mr. J. Douglas second, Mr. R. C. Cartwright third, and Mr. R. Sydenham fourth and fifth, each with Isabel Lakin, and Messrs. Thomson & Co. sixth with John Smith. For a single red, light edged, Messrs. Thomson & Co. were first with Mrs. Gorton and second with Thomas Williams, and Mr. J. Euston third with Lena, these being the only exhibitors in the class. For a single purple, heavy edged, Mr. R. Sydenham was first, Messrs. Thomson & Co. second, and Mr. A. R. Brown third and fourth, Medhurst's Seedling being the variety; Mr. M. Rowan was fifth and sixth with Amy Robsart. For a single purple, light edged, Mr. A. R. Brown was first and third, Mr. R. Sydenham second with Harry Kenyon, Messrs. Thomson & Co. fourth with Somerhill, Mr. C. Turner fifth with Mary, and Messrs. Thomson and Co. sixth with Mrs. Openshaw.

For a single rose, heavy edged, Mr. R. Sydenham was first with Madeline, Messrs. Thomson & Co. second with Lady Louisa, Mr. J. Douglas third with an unnamed variety, Mr. M. Rowan fourth and fifth, and Mr. C. Turner sixth, each showing Little Phil. For a single rose, light edged, there was apparently only one exhibitor, Mr. R. C. Cartwright, who took the first prize with Rosie Sydenham. For a single scarlet, heavy edged, Messrs. Thomson & Co. were first and fifth with Mrs. Sharp, Mr. C. Turner second with Duchess of Albany, Mr. A. R. Brown third and fourth with Mrs. Arthur Brown, and Mr. C. Turner sixth with Madame Richer. For a single scarlet, light edged, Mr. R. Sydenham was first with Favourite, Mr. J. Douglas second and sixth with Fortrose, Mr. C. Turner third with Favourite and fourth with Lady Jane Churchill, and Messrs. Thomson & Co. fifth with Favourite. For a single yellow ground Mr. J. Douglas was first with Wanderer, Mr. H. W.

Weguelin second with Mrs. R. Sydenham, Mr. Geo. Chaundy third, Messrs. Thomson fourth and fifth with the same variety, and Mr. G. Chaundy sixth with Ladas.

The several classes for Carnations and Picotees, in which it was essential that a spray of foliage should accompany each bloom, were very attractive, and took the attention of visitors. Amongst the most successful exhibitors were Messrs. W. Garton, jun., J. Loveder, W. Hadley, M. V. Charrington, S. A. Went, E. Charrington, C. Harden, A. Spurling, J. Euston, F. Hooper, S. F. Solley, W. S. Walker, J. Gilbert, J. King, H. Reynolds, and O. J. Cook.

For twelve Carnations or Picotees in pots Mr. C. Blick was first with grandly grown plants, and Mr. J. Douglas, who was apparently the only other exhibitor, took second. For a plant in a pot not exceeding 8½ inches in diameter Mr. C. Blick was first, Mr. J. Douglas second, and Mr. W. Hadley third. Mr. C. Blick was also first for a group of Carnations, staging magnificently. Mr. J. Douglas took the first in the class for a small group.

Mr. H. Rogers, Woodbridge, secured the premier award for a dinner-table decoration with a graceful arrangement of pink Carnations, Asparagus, and Grasses, with trails of Smilax on the cloth. Morters Stores, Ltd., Norwood, were second. Mr. S. A. Went had the best vase, Mr. H. Rogers and Mr. C. Harden following. Mr. C. Blick was first for three ladies' sprays, Mr. H. Rogers being second, and Mr. A. J. Rowberry third. Mr. C. Blick was also first for buttonholes, and was followed by Mr. H. Rogers and Mr. A. J. Rowberry as named.

The prizes in the three following classes were provided by Mr. Martin R. Smith of Hayes, Kent. For a bunch of a self-coloured border Carnation, Mr. H. J. Smyth, High Street, Bloomsbury, was first with a fine bright crimson variety named Jim Smyth; Mr. J. Collins, Woodbridge, second with Miss Audrey Campbell; and Mr. E. C. Goble, Ryde, I.W., third with Duchess of Fife. For six varieties of self-coloured Carnations Mr. J. Euston was first, Mr. E. C. Goble second, and Mr. H. W. Weguelin third. For nine varieties of coloured Fancy Carnations or Picotees Mr. H. W. Weguelin was first, Mr. J. Euston second, and Mr. M. Charrington third.

KENLEY AND COULSDON.—JULY 27TH.

IN a meadow in a pretty valley at Kenley, Surrey, the annual exhibition of this fourteen-year-old society was held. The parish of Coulsdon is a large one, and enjoys the distinction of being about the best cottage garden societied in the kingdom. In addition to this one, which in its radius covers the entire parish, another was formed a few years ago which covers all the western side, and now a third society has just been formed which takes almost the entire area. The result is much that is absurd, as there are certain gardens and cottages that get judged three times in the season, or can exhibit produce and compete at three parochial shows.

At the Kenley Show there were presented capital groups of plants from Messrs. J. Laing & Sons, Forest Hill; Mr. C. T. Sedgley, Caterham, who also put up good Roses; Mr. J. R. Box, Croydon, also beautiful Sweet Peas, and from Mr. T. Edmunds, Westerham. A table of pretty floral designs by Miss Sedgley was greatly admired. Mr. Bannerman, gardener to Joseph Lawrence, Esq., Kenley, showed good fruit trees in pots; also an extremely pleasing and novel group of plants, so diversely arranged from the customary style, and eliciting much admiration.

In competitive classes Mr. J. C. Carey, gardener to C. H. Price, Esq., had a very pretty decorative group, being placed first; Mr. Woodham, gardener to G. Maw, Esq., coming second, with one too formal and crowded. Mr. Johnson, gardener to W. C. Straker, Esq., had the best six foliage plants, and Mr. Woodham the best three flowering plants. Mr. T. Hill, gardener to Mrs. Croome, had good Gloxinias; and Mr. Carey capital Begonias, each being first in the classes. The latter had the only box of indoor cut flowers, but in the corresponding class for outdoor flowers there was good competition, Mr. Carey coming first with a well-arranged stand that included good Delphiniums, Erigeron speciosum, Coreopsis grandiflora, Lychnis chalcidonica, and others. Mr. Vale, gardener to W. J. Brand, Esq., had a capital box of twelve Carnations, well set up; and Mr. Hill had the best Show and Cactus Dahlias.

Good collections of hardy fruit were shown, the best being Cherries, Strawberries, Gooseberries, Raspberries, Red and White Currants, and Apples. There was a large competition in vegetables, several diverse collections being invited. For Messrs. Sutton & Sons' prizes Mr. T. H. Hill was first with good Cauliflowers, Onions, Potatoes, Tomatoes, Cucumbers, and Peas; Mr. Johnson coming second, and Mr. Woodgate third. For Mr. J. R. Box's prizes Mr. Woodgate was first, having capital exhibits. The same exhibitor was first also in the competition for Mr. Butcher's prizes, and also took the first prize in the Society's class for nine vegetables. Mr. Hill had the best six dishes of Potatoes, with Sutton's Ideal, Windsor Castle, Satisfaction, 90-fold, Seedling, and Pride of Wycombe. Mr. Carey had the best pair of dishes in Duke of Albany and Windsor Castle. Mr. Hill had in Windsor Castle the best dish in the show. There was strong competition in the ninety odd classes. Mr. Smith, the local schoolmaster, is a very energetic as well as an enthusiastic Secretary to the Society.

HUYTON AND ROBY.—JULY 28TH.

ON Thursday last the annual Show of the above Society was held in the grounds of the Public Offices, Huyton, and the attendance was very large. The show was opened by Mrs. E. Shorrocks, Eccles, wife of the Chairman, in the absence of her husband. There were eighty-three exhibitors this year as against fifty-four last year, over 400

exhibits being staged. As at Prescott on the previous Thursday, Messrs. A. Dickson & Sons, Newtownards, Co. Down, staged magnificent Roses, which were the talk of the day, and which received a certificate of merit. Messrs. R. P. Ker & Sons, Aigburth Nursery, Liverpool, and Mr. C. A. Young, Floral Nursery, West Derby, received similar awards for a splendid group of foliage plants, Roses, and for Carnations respectively.

Mr. W. Lyon, gardener to A. Mackenzie Smith, Esq., Bolton Hey, Roby, won the group arranged for effect with a choice collection of plants, the arrangement being good; Mr. McFall, gardener to E. C. Leventon, Esq., Oakfield, Roby, being a smart second. In stove and greenhouse plants, Ferns, Palms, and indoor cut flowers Mr. R. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby, swept all before him both in collections and single specimens. He also won with Caladiums beautiful in colour; Messrs. McFall and T. Eaton, gardener to J. Parrington, Esq., Roby Mount, Roby, following with fine specimens. Excellent Gloxinias, a beautiful Oncidium Lanceanum, Petunias, and fine Begonia won Mr. Lyon the prizes.

Handsomely trained Fuchsias and Zonal Pelargoniums were shown for first prizes by Mr. E. Bridge, gardener to Mrs. Jowett, Greenhill, Huyton; Mr. George Guy, gardener to Dr. Gaskell, Huyton, and Mr. J. George, Huyton, winning with four Begonias, and the latter with Coleus and table plants. Mrs. E. Shorrocks, Eccles, arranged a delightful epergne, bouquet, and basket of Roses, the prize for table decoration arranged for six persons being won by Miss M. M. Fishwick, Roby, with a light and elegant display of Sweet Peas.

Cut flowers were grand, but the space was quite inadequate to display them to the best possible advantage. In all three classes of Roses Mr. R. Pinnington was awarded chief honours, although competition was very keen, Mr. J. Burrows, gardener to W. H. Crook, Esq., Huyton, being second. The special prize for lady's spray went to Mr. Eaton with Dendrobium Phalaenopsis and Maidenhair Fern, a pretty Cattleya winning Mr. Lyon the prize for gentleman's buttonhole. The herbaceous cut flowers were staged to advantage by Mr. Eaton, Mr. Pinnington following him in the class of twelve. Mr. J. Watkin, gardener to T. D. Syers, Esq., won with excellent hanging basket and six Carnations. Dahlias, Sweet Peas, and model garden prizes were won by Mrs. Middlehurst and Messrs. Burrows and T. Lucas.

Fruit was very superior, Mr. Oldham, gardener to Joseph Beecham, Esq., won with the collection, grand Buckland Sweetwater and Madresfield Grapes and Jefferson Plum being prominent. Mr. Eaton was second, and Mr. Pinnington third. For black and white Grapes Mr. Oldham again led, being followed by Messrs. Eaton and Pinnington. Mr. Pinnington won with handsome Dagmar Peaches, and Mr. Eaton with Elruge Nectarines, the latter showing a superb dish of Latest of All Strawberry. Hardy fruit was much above the average, and of the best quality, Mr. Hardecastle, gardener to Thos. Harding, Esq., Rydal House, Huyton, taking the lead, whilst Mr. J. Fairclough, gardener to J. B. Atherton, Esq., won with a Melon.

The vegetables were perfect, the fight being between Messrs. Lyon and McFall, the former winning with a collection, three dishes of Tomatoes and one dish of Tomatoes, three dishes of Peas and one dish of French Beans. Mr. McFall was second in the first four classes and first for three dishes of Potatoes. Mr. Pinnington won with Erfurt Cauliflowers, and Mr. J. Humphreys with Cucumbers.

Cottagers' exhibits were really excellent, Mr. Fleming winning the Countess of Derby's prize, and Mr. Wm. Hesketh the prize given by Mrs. Parrington for the best cultivated allotment garden. The success of the Show was attributed in no small degree to the stagers, Messrs. Rimmer and Hunter, and to the painstaking Secretary, H. Middlehurst, Esq., F.R.H.S.

REDHILL CARNATION.—JULY 29TH.

THE first show of the Redhill, Reigate and District Carnation and Picotee Society was held in the grounds of Caberleigh, Redhill, on Friday, the 29th July, and judged by the number of competitors and the high quality of blooms staged, could not be pronounced but an unqualified success. Nor could this be otherwise, represented as it was by such giants of the Carnation world as Mr. Martin R. Smith of Hayes (whose blooms were, as usual, splendidly staged by Mr. Chas. Blick), Mr. James Douglas of Great Bookham, Mr. Harry Turner of Slough, and Mr. Robt. Sydenham of Birmingham, together with most of the leading amateur growers in the south. It is much to be regretted that the day was very cold, and although the threatening rain did not descend it was more like March than July, and the attendance was therefore not so good as it might have been.

In class 1, for twenty-four blooms, selfs, fancies, bizarres, or flakes, Mr. Martin R. Smith was a good first with a splendid stand of Purity, Don Carlos, Mrs. Grey Buchanan, Cecilia, Bomba, Helmsman, Jefan, Nora Creina, Alexandra, also a sport from the latter, Blondin, Olga, The Cornet, Hidalgo, The Maid, Goldy Locks, Orion, St. Albans, Seedling, Gordon Lewis, Rheims, Rob Boy, Autocrat, and Geo. Melville. Mr. Jas. Douglas was second, Mr. Harry Turner third, and Mr. Chas. Phillips of Bracknell fourth.

In class 2, for twelve Picotee blooms, white or yellow ground, Mr. Martin Smith was again well to the front with superb blooms of Lily Duchess, Badminton, Duke of Alva, Lady Bristol, Dinorah, Hesperia, Heather Bell, Hygeria, Edith Volage, His Excellency, and Fashion; Mr. Jas. Douglas being second, and Mr. Harry Turner third.

In class 3, for twelve Carnation blooms, Mr. A. J. Rowberry, of South Woodford, was first with Orestes, Mrs. Sidney H. Diver, Dick Donovan, Cardinal Wolsey, Geo. Cruickshank, Mrs. Eric Hambro, Endymion, Ceres,

Mrs. Prinsep, The Czar, Monarch, and Miss Audrey Campbell. Mr. T. A. Went, of Thames Ditton, being second, and Mr. E. Charrington, of Chislehurst, third. In class 4, for twelve Picotees, white or yellow ground, Mr. T. A. Went turned the tables on Mr. Rowberry, beating him with a capital stand of Badminton, Dervish, The Gift, Alice Mills, Voltaire, Golden Eagle, Seedling, Florric Henwood, Favourite, Jessie, Mrs. Sharpe, and Thos. William.

In class 5, for six Carnation blooms, Mr. Aubrey Spurling, of Blackheath, was first; Mr. St. B. Sladen, of Reigate, second; and Mr. E. E. Snudden, of Loughboro', third. Class 6, for six Picotees, Mr. M. Charrington, of Hever, was first; Mr. E. E. Snudden second; and Mr. St. B. Sladen third. In classes 7 and 8, for three Carnations and three Picotees respectively, Mr. R. B. M. Morris, of Merstham (the Hon. Sec. to the Society), carried off the principal honours. Mr. Robt. Sydenham brought down, as an experiment, most of the blooms he had taken the leading prizes in the single bloom classes at the Crystal Palace on the preceding Wednesday, his idea being that through the cold weather the blooms have more slowly developed, and would consequently last longer when cut. The idea was borne out by the result, for he nearly cleared the board here with them in the corresponding classes. For a vase of Carnation blooms, &c., Mr. T. A. Went was to the front with a splendid exhibit; Mr. M. V. Charrington being second; and Mrs. Hadley third.

For three sprays of Carnations Mr. A. J. Rowberry was first, Mr. St. B. Sladen second, and Mr. M. V. Charrington third. Mr. Aubrey Spurling carried off the challenge cup for twelve varieties of Carnations, three trusses of each, and the special prizes offered by Mr. R. Killick for twelve Carnations cut from the open border, and staged without dressing, were taken by Mr. M. V. Charrington, Dr. Hadley and Mr. A. J. Rowberry. For the best table decoration Mrs. St. Barbe Sladen was first, Mrs. Hadley of Reigate second, and Mrs. W. Morrison of Reigate third.

Mr. Cutbush of Highgate staged a large collection of Sweet Peas and Carnations; Mr. F. G. Foster of Havant a magnificent stand of Sweet Peas; Mr. Henry Cannell of Swanley, Cannas, Sweet Peas, and Carnations; Mr. Jas. Douglas a fine exhibit of new Carnations, and last but by no means least was a lovely group set up by permission of Lily, Duchess of Marlborough, consisting of Malmaison Carnations, foliage plants, and Ferns.

BEDDINGTON.—AUGUST 1ST.

THE fête held on August Bank Holiday in connection with the Beddington, Carshalton, and Wallington Horticultural Society has become of more than local importance, and is annually visited by thousands of people from the surrounding districts. The sports and the demonstration on bee management assist in attracting the public, while the horticultural department has long been renowned for the excellence of the produce staged. Several tents have to be requisitioned for the accommodation of the exhibits, the major portion of which are shown in competitive classes. Some nurserymen sent collections, but the day is recognised as a bad one for the nurserymen to support, as many of their men want the Bank Holiday for pleasure and not for work. Mr. J. R. Box, Croydon, showed some good Roses, while Mr. W. E. Humphreys, gardener to A. H. Smee, Esq., Wallington, arranged a group of miscellaneous plants.

This year's show was practically the same as that of last year with regard to entries, the fruit section only showing slight deterioration. What fruits were staged were not up to the average standard of quality, though hardy fruits were admirable for the season. The Currants, both Red and Black, and Gooseberries were clean and attractive, but under glass fruit was not so good. Grapes were fair, but there was nothing that calls for special comment.

Groups of plants were effective, and elicited much admiration, one from Mr. J. H. Stevens, gardener to E. G. Coles, Esq., Carshalton, being especially meritorious. The quality of the individual plants was good, and the arrangement tasteful. Mr. A. Etheridge, gardener to A. Cressy, Esq., Wallington, also staged a group of assorted plants which was in every way creditable. The cultivation and the cleanliness, combined with judicious placing, made this exhibit very charming. Mr. W. E. Humphrey's non-competitive group, briefly referred to above, was excellent in every respect, and was a worthy addition to the exhibition.

For the first time this season a class has been instituted for a table of miscellaneous flowering and foliage plants, and it should eventually become a feature of the Show, as it is at Brighton and other provincial centres. On the present occasion Mr. G. Lewry, gardener to Mrs. Blake, Croydon, was the only exhibitor, and received the first prize. Good culture was particularly apparent in the plants utilised. The awards in the classes for baskets of flowers and for table decorations were keenly contested for. An extremely tasteful table arranged by Mrs. A. Robinson, Stafford Road, Wallington, was greatly admired. Skilful use had been made of yellow Marguerites, pink Carnations, and Sweet Peas, with Maidenhair Ferns, Asparagus, and Smilax. Amongst the plants that were best shown were Begonias, Caladiums, and Crotons; while flowers in a cut state were to be seen in considerable numbers. These comprised those from greenhouses as well as garden, and wild flowers with grasses in abundance. Some were shown in bunches, while others found places in vases, epergnes, and baskets in association with varied foliage. Altogether the floral department was delightful.

To find the finest section of the Show, however, it was necessary to go amongst the vegetables. These were of all kinds, and from cottagers as well as professional growers were excellent. There was quantity too in addition to quality, and the competition in some of the classes, where there were from nine to a dozen exhibitors, was remarkably keen.

It too frequently happens at such shows that size is taken as the standard of excellence, but at Beddington such was not the case, for almost all the produce was of average size, clean and fresh. The collections of vegetables were splendid, as were many of the Potatoes, Cabbages, Beet, Onions, Marrows, Beans, and Peas. Salads and herbs in their respective classes were also very fine.

The most intense interest was centred in the class for a collection of nine distinct kinds of vegetables, to be arranged on a 4-feet space of the show table. Quality only was to be taken into consideration in the judging. Six prizes, amounting to £5 in the aggregate, were offered, and the money was divided proportionately with the marks secured. There were nine competitors, of whom Mr. J. H. Stevens, with fifty-six marks, was placed first. It was a splendid exhibit, that did not contain a really weak dish. Marrows, Turnips, Onions, Green Cabbages, Beet, Broad Beans, Potatoes, Peas, and Cucumbers were represented. Mr. H. Shoebridge, gardener to M. Beddington, Esq., Carshalton, with forty-eight marks, took the second position, his best dishes being Kidney Beans, Beet, Peas, Potatoes and Green Cabbages. Mr. Harvey Hopkins, The Wrythe, Carshalton, took third place with forty-seven marks. His Potatoes, Kidney Beans, Onions, and Marrows were highly creditable. Mr. H. Sell, gardener to J. Wallis, Esq., Beddington, was fourth with forty-six marks, his Beet, Onions, and Turnips being very strong. Mr. J. Cripps, gardener to J. Easterbrook, Esq., Carshalton, was fifth with forty-three marks. Cauliflowers and Onions were best in this stand. Mr. O. McRae, Beddington Corner, was sixth with thirty-seven marks, the Potatoes forming his best dish. The ninth man scored twenty-eight, or just half of the number secured by Mr. Stevens. The monetary value of the individual prizes was—first, £1 0s. 1d.; second, 17s. 4d.; third, 17s.; fourth, 16s. 8d.; fifth, 15s. 6d.; sixth, 13s. 5d.

CASTLEFORD.—AUGUST 1ST.

IN recent years this show has made phenomenal progress, a Bank Holiday fixture evidently being very popular with an immense working class population. The treasury of the Society is in a very flourishing condition, the handsome sum of £800 in hand would be materially increased at the close of the present exhibition, a fine day and a large attendance crowning the business-like arrangements of a hard-working Committee. The general features of the show showed a considerable falling off in the number of entries, but the exhibits of the chief prize-winners were quite up to the average.

In the class for twelve stove and greenhouse plants, six in bloom and six ornamental plants, not more than two of any variety, Mr. F. Nicholas, gardener to the Marquis of Zetland, Upleatham, was easily first with a superb collection without a sign of weakness in any feature of the exhibit, which comprised *Ixora Williamsi*, *Anthurium Scherzerianum* Wardi, *Dipladenia boliviensis*, *Dipladenia* Thos. Speed, *Statice profusa*, and *Clerodendron fallax* coming exceedingly fine; *Crotons Warreni* and *angustifolia*, well coloured *Kentia Belmoreana* and its variety *superba*; a magnificent plant of *Cycas circinalis*, and *Dæmonorops grandifolia*. Mr. Joe Sharp, Almondbury, was second; Mr. J. Sunley, Monkfryston, third. For six stove and greenhouse plants in bloom, first, Mr. Joe Sharp; second, Mr. J. Sunley. Six exotic Ferns, Mr. Nicholas was first with fine fresh examples of *Gleichenia glaucescens*, *Adiantum Farleyense*, *Cyathea dealbata*, *Neottopteris australaica*, *Gleichenia flabellata*, and a magnificent *Davallia filijensis*.

Table plants were charming, every plant being fit for the purpose, either individually or collectively. The first prize went to Mr. W. Curtis, gardener to J. Blacker, Esq., Selby; Mr. Nichols second; Messrs. J. and R. Callam, Heath Nurseries, Wakefield, third.

Groups arranged for effect, 175 square feet, made an imposing show. Mr. Joe Sharp was deservedly first with an imposing arrangement. The second prize went to Mr. Curtis for a highly creditable display, and Mr. J. Sunley was third.

Messrs. J. & R. Callam exhibited a fine stand of cut Roses, thirty-six varieties, securing first honours here and in the stands for twelve varieties, the other stands in these classes calling for no comment. Messrs. J. & R. Callam and Cottam, Alma Gardens, Cottingham, divided the chief honours for bouquets, wreaths, crosses, ladies' sprays, and buttonhole flowers. Mr. J. Sunley was first for a good collection of cut blooms, stove and greenhouse.

A remarkably fine stand of vegetables of twenty varieties, exhibited by Mr. Nichols, gardener to Lady Beaumont, Carlton Towers, commanded general admiration. The same exhibitor secured first prize for a collection of fruit, six varieties, and first for two bunches of black Grapes, showing Madresfield Court in superb condition.

EFFECTS OF ROOT-PRUNING.—It has often happened that when cellars for houses or other excavations into the subsoil have to be made near unproductive fruit trees they are within a year or two brought to bearing, and continue this habit. In all such cases it is the considerable amount of roots that are thus destroyed which produce this good effect. Most of our young orchards suffer more from excess of plant food than from its deficiency. Undoubtedly in destroying these roots, especially in the growing season, the vitality of the tree is injured. In modern orcharding the orchard is cultivated shallow all summer and not cropped at all. That causes the trees to make too much wood. If, says an American authority, at midsummer these orchards were ploughed 7 to 9 inches deep, the trees would be more fruitful than they are under the present system. But if this treatment makes the trees blossom and set heavily next year, it will need to be all the better supplied with food, because so many of its roots have been destroyed.

TOWN GARDENING.

THE unwritten edict, surely the most tyrannical and irrational to which suffering man ever bent his neck, which decrees that well-to-do folk who have spacious country homes shall desert them for at least three of the fairest months in the year, and immure themselves in costly and narrow town quarters—that edict, I say, seems so immutable, that it is wisest to accept it, and render it as endurable as possible.

Nothing less than the precession of the equinoxes can ever render London an open-air city. That "Queen's weather," which made the Jubilee summers of 1887 and 1897 memorable among decades of fitful or adverse seasons, would enable us, could we count on it, to give ourselves *al fresco* airs, to line our pavements with café chairs, to dine and sup under the stars, and use our houses only for work or sleep; but, as things are, we have to pay the penalty of disregarding the obvious lesson of Nature, so long as we persist in swarming into London when it is least habitable, instead of putting off our work and amusement there till winter, when coal fires make the town comfortable.

Window-boxes—why are they so few? Partly because people who take a house for a few weeks or months often grudge the expense of furnishing them. The mode prescribes table decoration on a liberal and costly scale. Many a dinner table is decorated at a price that would fill every window of the street front with flowers—flowers, too, that would give pleasure, not for a couple of hours to a score of indifferent guests who care more for the *plats* than the parterre, but to every dweller in the house and to every passer-by in the street; flowers that would not wither in a night and add to the morning's mass of decaying refuse, but living flowers that would flourish till the autumn frosts, each green leaf doing its work in sweetening the atmosphere for a million pair of lungs. Be it far from anyone to discourage the flower trade; may it long flourish pretty and prosperous! Only, if there is money to spend on it, shall it all be on flowers for a night, and not part of it on flowers for a season? From my writing-table I have across my flowerless sill view of twenty-four houses over the way, in some of which I have partaken of liberal hospitality at tables laden with lovely flowers; but only two out of these four-and-twenty houses display growing flowers in the windows. Fashion is conveniently impersonal. Let us lay the blame on her, and reflect if we could not get more lasting enjoyment out of our flower bills for ourselves and, less selfishly, for the man in the street.

Much as may be got out of window gardening, there is still more to be made out of our areas. In window-boxes the plants are popped out in full flower, and the wayfarer cannot mark his calendar by expanding bud and lengthening spray. It is the exception to see any of the green things of the earth trained against the dreary leagues of brick and stucco of western London, unless it be the American mock-vine—*Ampelopsis* or Virginian Creeper. That vigorous climber is certainly something to be grateful for, so bravely does it thrive in that alternation of torrid drought and noxious vapour which constitutes London climate; in autumn, when all the gay people have fled, it waves its long tresses generously over many an ugly object. But it is very late in habit; often, as happened this year, the last sands of leafy June are running out before the mock-vine spreads its green mantle. There are other good things, hardly less patient of London air, for training on house fronts, which one very seldom sees. Roses, Honey-suckle, even Ivy, must be despaired of; these, and many other fair things cannot endure the scorching of the sun refracted from walls and pavement. Here and there, indeed, Ivy may succeed, but, as a rule, all evergreens are hopeless.

But if you want unfailing summer verdure plant a Fig tree in your area; the hotter the summer, the fresher spread the splendid leaves, purifying the air for many yards around—the best of all Cockney trees of lowly growth. The common Laburnum, too, is a charming wall shrub for a town; two only I know of in London, one in Belgrave Square, another in Grosvenor Square, and though I have not the privilege of acquaintance with their owners, year after year, as regularly as May comes round, I bless them for these pretty trees. Magnolias—most magnificent of flowering trees—seem not to have been tried, but there is little doubt, seeing how well they flourish as standards in Hyde Park, at Kew, Syon House, and elsewhere near the metropolis, that they would lend themselves to wall decoration. Only it must not be the evergreen species, *M. grandiflora*, but such deciduous kinds as *exoniensis*, with chalice of ivory-white; purple-stained *Soulangeana*, or the myriad-blooming *parviflora*. The Persian Lilac is a good area plant, though I have only seen it once grown in that position—again in Grosvenor Square. The scientific name of the Lilac is *Syringa*, but among the shrubs we commonly call *Syringa* in English—the white-flowered *Philadelphus*—are some species which it is almost certain would thrive in the town, as they do in suburban gardens. The more robust species should be chosen—*Philadelphus grandiflorus* and *Gordonianus*—which are simply splendid at midsummer in their wealth of fragrant, waxy bloom.

Of the effect of town life on the worthier species of *Clematis* I cannot speak with confidence. There is a very large plant of some kind of *Clematis*, apparently the white-flowered *C. montana*, on the side of Dover House facing the Horse Guards Parade; but it is pruned so closely every year that it never flowers. One of this species has grown 15 feet high on my own house, but three successive Junes have passed without rewarding me with any blossom. I do not, however, despair if the officious knife of the pruner can be kept off it, for this is a kind that flowers only on the growth of the previous year, an important characteristic to remember in dealing with all flowering shrubs. Many a fine

Banksia Rose have I seen defrauded of its display of blossom simply because it has been tightly pruned like a Hybrid Perpetual, which flowers on the young shoots.

The white *Acacia*, more correctly *Robinia pseud-Acacia*, one of the best and surest trees for street planting, might be used with good effect for training on the wall of a town house. None has more lovely foliage, none bears greater abundance of flowers nor carries them for a longer period. The rose-coloured species, *Robinia hispida*, is even freer to blossom, and is a very beautiful plant; but I fancy the sticky hairs which cover the young shoots would get clogged with smuts to the injury of its vigour.

The most beautiful area plant of all is one that unluckily flowers too late to decorate London streets during the season; but if anyone wants to realise the extraordinary beauty of *Hibiscus syriacus* (also called *Althæa frutex*) let him wander down Cheyne Walk some September evening. Needless to mention the number of the house; afar off he will see a cascade of lovely blossom—a shrub some 7 feet high, bearing on every twig large flowers, white, with a claret stain on every petal. This is only one variety of this choice Mallow-wort, which revels in all the sunbake it can get; you can have it, if such be your pleasure, with delicate lavender flowers, or pure white, or rose-coloured.

The last wall plant that I shall mention as suitable for London is, strange to say, a Conifer. Strange, because one might attempt to grow Pine Apples in Franz Josef Land or Mangoes in Labrador as hopefully as any of the Fir tribe in London, except the *Salisburia*. It is a deciduous Pine, with leaves like a magnificent Maidenhair Fern. It wants the protection of a wall in London, for the upper branches die back poisoned when grown as a standard—witness the specimen which stretches over the wall of the Apothecaries' Garden in Flood Street, Chelsea; or another, equally tall, beside the main street of malodorous Brentford. Trained on a wall the quaint *Salisburia* affords a covering as interesting as it is beautiful.—SIR HERBERT MAXWELL, BART. (in the "Daily Mail.")

NASTURTIIUMS.

HAVING had the pleasure of a visit to the Messrs. Suttons' seed trial ground at Reading, in company with a member of the firm, I consider I have seen all to the greatest possible advantage. The blaze of colour and beauty in the various patches alongside of the G.W.R. line is most striking. "Flowers of all hues without, alas! the Rose," to misquote Milton. Of one kind alone I am desirous to write, partly from preference, and partly because the present dry season was showing them in their greatest perfection—I mean the Nasturtiums. There they were in their various patches, a perfect flower carpet. Well fed and well watered plants are apt to run into leaf; these hardly showed any leaves; in the mixed varieties the many colours and changing beauties were extraordinary.

It is one of the charms of this plant that the wind and the bees are perpetually starting fresh varieties of colour. The drawback is that the same forces are continually altering the fancy colour when it is gained. I had obtained a new colour, and last year collected a fair amount of seed, which was carefully sown in a bed by itself; this year only four plants out of the whole patch came true again; in the rest the type was lost, or had run back to some self colour. These seem the easiest to keep, and they were outspread in all their glory. *Cœruleum roseum*, with its peculiarly long rose; dark and dwarf Tom Thumbs, the truest of edgings; Aurora, colour of dawn, almost the fairest of all; whilst a huge long bed of Cloth of Gold was especially striking, through the greater amount of foliage its golden leaves were well displayed.

Now that this plant has been brought to such perfection, it is surprising that the old dull colours are continued in so many gardens. There is now a great variety of well-established new sorts. It is an interesting pursuit to go in for a new colour, which a careful watching over of a good large bed of "Sutton's Mixed" would probably give in the course of a hot summer; then the plant should be isolated, and the seed carefully collected. The cheapness and exceeding beauty of this plant should make it even more grown than it is. It has yet another virtue; instead of being rapacious like Roses (I regret to say) and so many plants in their demand for high feeding, the Nasturtium blooms better when the ground is rather poor; and will go on contentedly flourishing on the self same spot for several successive seasons.—A. C.

A FASCINATING FLOWER.—Very ancient is the history of the Poppy; it was wreathed with the Lotus in Egypt, and twined with Thyme and Parsley in Greece. It was also one of the flowers dedicated to Venus; and the witches who wrought their spells and muttered their incantations on the mountain tops cast into their brew the horned leaves. It was early recognised that the Poppy in its simplest form is one of the most decorative of flowers. Its simplest form is, of course, the wild flower of four petals. It is treated decoratively in a number of ways; either as a flat design of the lifted cup, or as a conventional representation of the four petals encircling the receptacle, or as the stem upholding the dome-like and sometimes strongly ridged seed pod. But after all, the most marvellous artistic suggestions are found in the sharply outlined leaves, which rise to slender Gothic points. These serve as models of leaf design, and were carved boldly and delicately in the stone of ancient cathedrals.—(*Indian Gardening*.)

THE YOUNG GARDENERS' DOMAIN.

STREPTOCARPUS.

THESE are free flowering, and very interesting blue or lilac-coloured flowering plants, which well deserve more extensive cultivation, on account of the easy culture and floriferous habit.

Propagation can be effected either by division of the plants or seed, the latter method being more generally practised. Sow the seed thinly, and very near the surface of well-drained pans, filled with a fine compost of loam, peat, leaf soil, and sand; cover with a square of glass and a sheet of brown paper to prevent evaporation. As soon as the seedlings appear light should be admitted gradually, and the pan placed near the glass, where it may be shaded from the hot sun.

As soon as the seedlings are large enough they should be transferred singly into small pots, and kept close until root action has commenced again; then place them in a position where they will receive as much light as possible to encourage sturdy growth. When the plants become sufficiently rooted they may be repotted as required, using a compost of fibrous loam and peat of equal parts, with a quantity of leaf soil and sand, and a few pieces of charcoal.

Although it is advisable never to syringe *Streptocarpus*, yet they delight in a moist atmosphere during bright weather. An even temperature of 50° to 55° at night, and a few degrees higher during the day, will be found to suit them admirably. During their flowering season and the winter months they should be kept somewhat drier and a few degrees cooler. As the spring approaches they may be repotted and started into growth, when they will eventually produce abundance of flowers for several weeks.—J. F. D., *Yorks.*

USEFUL GREENHOUSE CLIMBERS.

MANY amateurs are at a loss to know what to plant as climbers in their greenhouses, often running away with the idea that the most beautiful climbers require to be grown in a stove temperature. This, however, is a mistake, and I will enumerate a few which are of easy culture and yet beautiful.

Clematis indivisa lobata is an evergreen climber, producing numerous clusters of white flowers from the axils of the leaves during the months from February to April inclusive. It is well worth a place in even a small house, while its season of flowering and usefulness place it as one of the first plants of its kind. A light position should be afforded it. Flowers are produced on wood of the current season's growth, and pruning is best carried out immediately after flowering, the growths left being laid in thinly at full length.

Lapageria alba is one of the best evergreen climbers, producing an abundance of pure white, waxy, bell-shaped flowers during the month of October and onwards through the winter. These flowers last a long time on the plant, but being produced on very short stalks are unsuitable for use in a cut state except for wreaths or table decorations; long sprays, however, cut and suspended from a tall vase have a telling effect. Young growths are sent up from the base in spring, and some protection may be afforded them by placing a tiny piece of wadding around each shoot until it becomes strong enough to resist the attacks of slugs. The red variety, *L. rosea*, is also useful, and even more floriferous than the foregoing, with which it makes a pleasant contrast. The soil best suited for *Lapagerias* is a rough peat with a sixth part of fibrous loam added, and plenty of charcoal and sand. The position for this plant should be a shady one, and the site or tub for planting efficiently drained.

To those who desire a variegated climber *Cobœa scandens variegata* cannot fail to recommend itself. It is evergreen and of very quick growth, and will cover a large house in an incredibly short time; thus it is well adapted for planting against the back wall of a conservatory, or if trained on the roof of a lofty house, and the growths allowed to hang down in festoons, the effect produced is very agreeable. The flowers, which are purple, are produced from the axils of the leaves, but are worthless from a decorative point of view.

Rhyncospermum jasminoides is an evergreen greenhouse climber, bearing small bunches of pure white strongly scented flowers during the month of July. In form and odour it is suggestive of the Jasmine, as the name *jasminoides* implies. This plant is well adapted for a pillar, and is, like the *Lapageria*, of slow growth, and requires scarcely any pruning. Flowers are much used in the making-up of buttonholes, and with a background of *Asparagus plumosus nana* forms an agreeable lady's spray.

Plumbago capensis is an excellent plant for a back wall. Its clusters of pale blue flowers are produced in great profusion from May to the end of summer. In pruning lay in a number of young shoots, as on these the flowers are produced the following season. There is a white form, *P. c. alba*, which is not so good as the foregoing, being more suitable where a large space has to be covered.

Solanum jasminoides (fig. 18), a deciduous climber, produces white flowers abundantly from May to October on well matured wood of the previous season's growth. I have not seen the flowers in a cut state, but judging from appearances the stalk would be too weak to bear the weight of the flowers. Red spider and mealy bug are the pests most likely to attack these plants. The former may be kept at bay by the judicious use of the syringe when the plants are not in flower, while mealy bug is best eradicated by well washing or syringing the plants with an approved insecticide always immediately after the flowering season has passed, the time chosen for the operation being a dull day or late in the evening.

The foregoing are suitable for cultivation by amateurs and professional

men alike, and will, with the exception of the *Lapagerias*, thrive in ordinary loam. They may be purchased from a good nurseryman in pots at reasonable prices, and all are perfectly safe in a temperature which does not go below 45° at night during winter.—T. P.

EARLY PEAS ON APRICOT BORDER.

IT is, I believe, an understood thing among all gardeners that heavy cropping of fruit borders is of detriment to the trees if great care be not exercised. In most gardens the common practice for general crops is not to plant within a yard or so of the wall, but where there is a limited space without proper appliances, and such crops as early Peas are a necessity, then one has to adopt a plan which is the most feasible. Such is the case with us.

Our Apricot border, which faces south, is about 22 yards long and 3 in width, has to serve our end for the above purpose, and has done so this season with great success. Chelsea Green Pea is the variety we used. It is a fine cropper, good in flavour, and of dwarf habit. The seeds were sown on January 4th, allowing a space of 2 feet between the

FIG. 18.—*SOLANUM JASMINOIDES*.

rows, and close to the wall, the rest of the border being used for early Potatoes. The earliest Peas were picked on the 8th of June, and the last on the 28th. This border has been cropped in the same way for seven years, and without any harm to the trees, which are at present carrying a heavy crop, and as healthy as one could wish for.

The utmost care is taken with this border, and it involves much extra work. Each year the surface where the Peas are grown is removed and replaced with fresh soil, and this with supplies of liquid manure during the season of growth, completes the management of the border. I may also add that on an average the Peas were used four times per week, and coming in as they did relieved the *Asparagus* bed from too severe cutting.—MULTUM IN PARVO.

GLORIOSA SUPERBA.

THIS handsome stove climber, with its flowers of a deep rich orange and red, its foliage a cheery green, makes a noble plant when tastefully trained in pyramid or balloon form. It is of easy culture, but must have a stove temperature from the time the bulbs are started in February, abundance of pot room, and most efficient drainage, for copious watering is essential. Equal parts peat and loam suit it. One plant we use in the mansion, and its abundant blossoms last well, and receive the admiration of everyone.—W. R. B.



HARDY FRUIT GARDEN.

Strawberries.—Young Stock.—The stock in small pots, turves, or otherwise being propagated must receive attention in watering during dry weather until established. Those in pots or turves, which are well rooted and have been detached from the parent plants, may be placed closely together on a moist base of coal ashes where water can be conveniently given them. Young plants established in the soil outside or between the rows do not suffer from want of water as a rule, and will only need a soaking previous to lifting for planting, and then only if the soil is very dry.

Strawberry Planting.—Preparing Ground.—Thorough preparation of the soil is necessary when forming a new plantation, whether for a long or a short period. The ground should at least be well dug and moderately manured. Sometimes the preparation can be best effected by liberally manuring and deeply cultivating early in the season a plot of ground for another crop, such as early Potatoes. These may all be lifted by the early part of August, the ground firmed and made ready for planting when enough rain has fallen to moisten it so that the plants can make a free start. Soils differ in character, however, and demand special treatment.

Light Soil.—Very light soils, especially if shallow, are the most difficult to deal with, owing to their drying so quickly. The application of clay or marl improves them, but it requires time and trouble for these materials to be introduced, which is best done the previous winter. Where chalk is plentiful this may be added, and it will improve the capacity of the soil to retain moisture. Well decayed vegetable compost, decomposed cow manure, and other humic matters are excellent additions for the purpose of increasing and maintaining permanent fertility; this also including the power to retain moisture. After the soil has been prepared tread it firmly.

Heavy Soil.—Heavy soils are not desirable until they have been brought into a proper state of cultivation, whereby air can penetrate the particles freely and the surplus water drain readily away. Stubborn clays may be made suitable by burning a portion of the clay, mixing it with the remainder and giving thorough cultivation, which will include deep digging and breaking up the subsoil. Many soils which are only heavy and unsuitable because of non-cultivation may be much improved by rough digging the previous winter, to allow the frost full play in breaking it down and pulverising it. An excellent addition to heavy soil is charred refuse, which consists of wood ashes and charcoal mainly. Road scrapings and any accumulated gritty material act mechanically in lightening retentive soils. In extremely wet soils drainage will be necessary.

Medium Soil.—Soils which are neither heavy nor light still require thorough preparation in order to maintain them in the necessary fertile condition which will insure Strawberries doing well. Moderately deep cultivation improves the soil, though Strawberries are surface-rooting. An application of farmyard manure may be given where the soil is not in good heart. Trenching need not be resorted to unless the ground is very foul, requiring strong measures to eradicate deep-rooting weeds. In trenching, however, the mistake must not be made of bringing unsuitable subsoil to the top, and burying the best surface material below.

Planting.—The specially prepared early plants rooted in pots and turves are the best to insert for providing the most profitable crops next season. The earlier they are placed in their permanent quarters the better now, as they should be well established before winter. Strawberries like firm ground, therefore light soil especially must be made tolerably firm. This may be done by well treading or rolling, but only when the surface is dry. Plant in rows 2 feet to 2½ feet apart, and the plants 15 inches asunder in the rows, taking into account the vigour of the variety and the richness of the soil.

Varieties.—It is advisable to carefully test any variety before planting largely. The same varieties do not always succeed alike on every kind of soil and situation. Royal Sovereign has been found to be one of the best for general purposes, and follows quickly in ripening upon Laxton's Earliest of All. Leader and Monarch are fine midseason varieties. Waterloo and Latest of All are best for prolonging the season to a late date.

Treatment of Established Beds.—After the fruit has been gathered, beds which are to be retained for future crops must receive attention in thinning out crowded runners if more young plants are required. If no more are wanted cut away all runners closely. Clear off weeds and loose strawy material. It is not profitable to retain beds too long, modern methods of culture proving that the best crops are obtained from strong young plants from one to three years old. The annual system of culture as practised by some cultivators may be adopted only in the case of varieties which give heavy crops of fine fruit the first season, the plants being then discarded for young ones, which must be rooted and planted early.

FRUIT FORCING.

Cherry House.—The trees are now ripe in wood and plump in bud. Any undue excitement will cause the trees to start into growth, which

must be guarded against by exposing the trees to atmospheric influences, this, with a little lateral growth, being the best means of averting premature growth. The border must be kept properly moist by judicious supplies of water or liquid manure to weakly trees. Subdue red spider by an occasional washing with the garden engine or syringe, and the prompt use of an insecticide in case of an attack from black fly.

Cucumbers.—Pot the seedlings for autumn fruiting as they become fit pinching out the point above the second rough leaf of such as are required for pits or frames. Before planting thoroughly cleanse the structure and remove all old soil. Prepare fermenting materials to afford bottom heat to plants in pits and frames. A suitable compost consists of light turfy loam, a sixth part of old mortar rubbish, and a tenth of charcoal thoroughly incorporated. Fire heat is not necessary in bright weather, yet in prolonged dull periods a low temperature induces stunted yellow fruits, canker at the collar, and mildew on the foliage. In such weather employ a gentle fire heat at night, and by day if dull and cold. Upon a return to bright weather after a dull period shade from bright sun, so as to prevent flagging, which wastes the energies of the plants. Attend twice a week to stopping and regulating the growths, and keep up a succession of bearing wood by removing exhausted and replacing with young fruitful growths. Ventilate at 75°, keep through the day at 80° to 90°, and close so as to keep the latter heat, with an advance of 5° to 10° well into the afternoon and evening. Where only one house is at command for this purpose, and Cucumbers are wanted during the winter months, seed should now be sown so as to secure strong plants for planting out in September, which will allow of their being well established and a good growth made before the setting in of cold dull weather. The plants cannot be grown too sturdily from the appearance of the seed-leaves, nor have too much light, with moderate ventilation, to insure a solidified growth and plenty of stored matter.

Peaches and Nectarines.—Earliest Trees.—Those started in December or early in January will soon part with some of the foliage, but it must not be accelerated by the roots being deprived of moisture. The soil should be kept in a moist, yet not a saturated condition, as the latter may cause premature growth, and that must be guarded against. As a safeguard against starting the blossom buds, allow such lateral extension as is necessary to appropriate the sap in excess of the requirements, a few green and unripe laterals doing that perfectly. With the trees exposed the rain will not cause premature growth, because the air is cool, and it has a beneficial and invigorating tendency. Early forced trees do not usually make strong growths, and they form far too many blossom buds, therefore the pruning requires to be carefully performed, as many shoots are studded with that description of buds, with wood buds only at the base and extremity, and it is necessary to retain a wood bud at the latter point, not cutting back next year's bearing wood unless the shoots are of great length. Weakly trees require the weaker growths cut out, so as to impart more vigour to those retained. Some trees grow too vigorously, and must be litted. Weakly trees should have the old soil carefully removed from amongst the roots, supplying fresh turfy loam. These operations ought to be performed as soon as the leaves are mature, and before they fall from the trees, syringing the latter, and shading whilst the work is in progress, and for a few days afterwards if the weather is bright.

Succession Houses.—Cut away the shoots that have borne fruit, unless required for extension, and all shoots where too crowded should be thinned. Keep the foliage clean and healthy as long as possible. With the freer access of light and air the buds will form perfectly and the wood ripen thoroughly, provided attention is given to a due supply of water at the roots. The house will need full ventilation day and night, and where the roof lights are movable, and the trees not very vigorous, they may be removed when the buds are sufficiently plumped. Where the fruits are ripening a free circulation of air will advance the quality considerably, supplying sufficient water to prevent the foliage becoming limp, and securing air moisture by damping the floors and borders in the morning and afternoon. A slight shade is sometimes beneficial when the sun is powerful, and the apex of the fruit fully exposed to its rays beneath the large panes of glass, to prevent the fruit ripening too quickly and becoming discoloured there. Ants are sometimes troublesome, eating into the choicest fruits, and strenuous efforts must be made to keep them at bay.

Late Houses.—The wood is best laid in thinner than is customary with trees in earlier houses, so as to give it a better chance to ripen, and the foliage is certain to assimilate more food and store it up in the wood, whilst the buds are properly formed. Attend, therefore, to thinning and regulating the summer growths. Strive to secure an even spread of moderately strong short-jointed wood. Ventilate freely in the early part of the day, allow a good heat from the sun through the day, and close so as to run up to 85°. Sun heat will not do any harm after evaporation has been going on for some time, but it is desirable to admit a little air before nightfall to allow the pent-up moisture to escape, and the gradual cooling of the house will insure rest. Early ventilation is essential for the solidification of the growth. Forceful syringings will keep the trees free from red spider, and should be continued until the fruit commences to ripen. Keep the borders well supplied with water or liquid manure.

CORRECTION.—We regret to observe that in our report of the last meeting of the Royal Horticultural Society we referred to Messrs. Wm. Paul & Son as of Cheshunt, whereas the headquarters of this firm are, as everyone knows, at Waltham Cross.

THE BEE-KEEPER.

DARK HONEY.

FROM various parts of the country come reports of the large amount of dark honey stored by the bees. In some apiaries the honey harvest, from which much was expected, owing to the prevalence of favourable weather during early spring, will from this cause be a total failure. We have on several occasions at the end of the season had a small quantity of dark honey, but never before have we had the dense black honey such as has been stored during the present season.

We know of large hives in some districts that were duly doubled for extracting purposes, and were crowded with bees which worked freely on fine days and stored a large surplus. The frames were all passed through the extractor twice, after an interval of ten days, the result being black honey, quite useless for commercial purposes. At the present moment the supers are again sealed over, and as the frames are placed an extra distance apart, they have immense slabs of honey stored in them. Several of them were placed in the scales out of curiosity, and they weighed upwards of 8 lbs. each. The honey, however, was of the darkest hue, and, if anything, worse than the two previous crops. As it is a waste of labour and energy to extract such stuff, it has been left on the hives for the bees to carry down into their brood nest as required. They will thus be bountifully supplied with stores, and the bee-keeper will look forward to another season in the hope of having a share of the honey harvest, instead of, as at present, feeding it all back to the bees.

At the various exhibitions visited during the past few weeks, at which prizes were offered for honey, it was interesting to observe how poorly the present season's honey was represented. At some of the shows not a single sample was exhibited; but at a large agricultural show, at which honey is usually well represented, the reverse was the case this season. Sections were fairly good, but run honey was indifferent, and but few exhibitors.

It is, however, interesting to hear from a bee-keeper "down west," who complained of dark honey earlier in the season. Writing on 16th of July he says:—"Yesterday I extracted 114 lbs. of very good honey from five hives, two of which were doubled, on the system recommended in the *Journal of Horticulture*, with full-sized frames, the other three having shallow frames. These had been stored in eight days, as the combs were then passed through the extractor." The above is interesting, as showing what has been done in that particular district. Although the sample of honey obtained early in the season was dark, a fair sample was eventually procured.

THE CAUSE OF DARK HONEY.

Dark honey may be obtained from different sources. A correspondent complained early in the season of his bees storing dark honey, which he supposed, and we think rightly, was obtained from Rhododendrons, which grew in large masses in the neighbourhood of his apiary. Blackberries, which are flowering profusely at the present time, yield a very dark honey. The Spanish Chestnut, too, may be classed in the same category; and as it does not bloom till late in the season, when the White Clover and Limes are nearly over, the bees collect the honey somewhat freely from this source, a little of which will soon spoil a good sample. It has a very sickly odour, which may be observed whilst standing several yards from the hive.

Although a limited quantity of dark honey may be obtained from various kinds of flowers, they are not of sufficient variety and quantity to have spoiled the whole of the honey harvest, as unfortunately has to be recorded in many parts of the country. The cause must thus be sought for elsewhere, and we have no hesitation in saying that the honeydew has been the chief cause of the mischief, owing to the peculiar season, which commenced most promising for bee-keepers during the first three months of the year. This was followed by changeable weather in April; May was cold and dreary. Owing to the check vegetation received, aphids made great headway on many of the hardy trees. Plums were infested in a marked degree; although the fruit set thickly much of it fell, owing to the blight, and as the unfavourable weather continued the aphids spread at a rapid rate. The Roses that were left to chance were a mass of green fly. The shrubberies were in the same unsatisfactory condition, whilst in the woodlands the Oak, Lime, and similar trees were affected with this pest.

As is well known, the aphids increased at a rapid rate, and as there were no heavy rains to clean the foliage it was soon covered with honeydew, being the excrement from the green fly. On some occasions it was dripping from the leaves like gentle rain. No wonder, then, the bees were tempted to store it in quantity when they could obtain it close to their hives; as it is very sweet the bees could not be blamed for storing it. But a small quantity of

honeydew will spoil a good sample that may have been previously stored in the hives. This fact alone proves the advantage of the moveable frame hive over the straw skep, as in the former when worked on improved methods the honey may be extracted as often as necessary, and thus a good sample may be obtained; whereas if it had been allowed to remain in the hive till the end of the season all would have been of inferior quality. This season has been an exception.

On the night of July 22nd heavy thunderstorms set in which lasted for six hours, 2.29 inches of rain falling during that time. This has been the greatest amount we have ever measured during twenty-four hours. It has had the desired effect of cleaning the foliage of much of the aphids and honeydew, but came too late to materially benefit the bees.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

- H. Cannell & Sons, Swanley.—*Cacti*.
 W. Cutbush & Son, Highgate.—*Bulbs*.
 Herb & Wulle, Naples.—*Bulbs*.
 Little & Ballantyne, Carlisle.—*Bulbs*.
 T. Methven & Sons, Edinburgh.—*Bulbs*.
 "Pinehurst Nurseries, Pinehurst, N.C., U.S.A.—*Seeds of Herbaceous Plants*.
 J. C. Schmidt, Erfurt.—*General List*.



* All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Dressing Tomatoes (T. H. T.).—We have sent your letter to Mr. Iggulden, from whom you will probably have heard before you see this.

Yellow Carnation (G. F.).—The flowers sent for inspection are of great size for secondary blooms, and we can well understand your admiration of the variety. Why did you not send one or two good central flowers when you had them? If you had done so we could have formed a much more accurate opinion as to the merits of the flowers as compared with the several excellent named varieties. As you say, the calyx shows no symptoms of splitting, but the central petals of the flowers were confused, and this is a defect in a perfect flower. It, however, may be absent in central blooms, of which you will perhaps favour us with examples at some future time.

Mildew on Cucumber Plants (Cucumber).—The giving of more air and fire heat will not arrest the growth of this epiphytall parasite, but probably favour it in some respects, as it has secured a hold. It is not necessary to use any poisonous substance, always more or less dangerous on edible fruits; but simply flowers of sulphur, dusting on as lightly as possible, but so as to coat every part evenly. Of course, where syringing is practised this will be washed off more or less, therefore may need repeating, but too liberal use of sulphur has a bad effect on the roots. We should use a little sulphur on the hot-water pipes, the fumes acting better against the mildew than the article in contact. We should not materially vary either the temperature or the ventilation on account of the mildew, but use the sulphur as advised, as it also acts well against red spider and white fly.

Peach Culture (G. B.).—After several inquiries we find that the pamphlet that was some time ago advertised in the Journal of the Royal Horticultural Society is out of print. This is of the less consequence to you since you have found the way to success, and can probably grow Peaches and Nectarines as well as did the author of the pamphlet in question. We are obliged by your letter, and congratulate you in turning the information imparted in our columns to such profitable account. The article on page 79 may be of interest to you.

Tomato Diseased (W. F. C.).—The plant is affected by sleepy disease fungus (*Fusarium lycopersici*), which enters the plant by the root system, and ascends the stem by the woody tissue. No outward application has any effect on the parasite. It is slow in its action, yet mostly sure, the plants attaining to about fruiting stage, then turn yellowish in the older leaves and black in the younger growths. When this occurs the end is near, and nothing can be expected but collapse. We have found the most benefit from the use of quicklime, and from dressings of kaint. The lime, best chalk air-slaked, may be used on growing plants at the rate of 2½ lbs. per square yard, and kaint at the rate of 2 ozs. per square yard. The dressing may be repeated occasionally, say every three weeks, surface roots being encouraged by mulchings of sweetened horse-droppings or other rich material, and preferably scalded before use, as a safeguard against eelworm. We did not find any other micro-organism—no fungus outgrowths on the leaves, but only the brown discolouring of the tissue on the stem, characteristic of the fungus named.

Killarney Fern (S. Alexander).—We are pleased that the advice we gave you about two years ago has proved so satisfactory to yourself and to your cherished plant. It seems all the same to have led to inconvenience—the necessity for more room for the specimen. You do not say whether it is in a greenhouse or not; nor does it much matter, as all you need for continuing its growth, wherever it may be thriving, is not a costly case with glass sides, but simply a box which any joiner can make, sloping like a garden frame and grooved near the top so that large squares of glass can be moved up and down as required. As a rule, they will only need to be drawn down an inch or so for a time in the morning, leaving a small opening for sweetening the air. This Fern enjoys a close, damp atmosphere and shade. We have seen no better plants than in boxes as described. They may be either grown in pans, as yours is, or planted out in a suitable compost, containing stones which jut out of the surface; but in this case the "box" would be best as a mere frame of a suitable size for placing over the plant, not a box with a bottom complete. If the wood is painted inside and out for preservation the paint must be thoroughly set and sweet—that is, emitting no odour when the "case" is placed over the plant.

Parsley Diseased (E. T. H.).—The leaves are affected by the Parsley leaf-blight fungus (*Septoria Petroselinii*), which first produces watery areas on the leaves, and the parts affected die as if scorched. Then, or soon afterwards, minute black dots appear, these projecting slightly above the cuticle of the plant. The dots contain the minute spores or reproductive bodies of the fungus, and spread the disease somewhat rapidly. The malady commonly occurs in the early stages of the plant's growth, and certainly goes over in some cases, if not most, with the seed, especially in the case of Celery, which is sometimes seriously injured by a form of it—namely, *S. P. var. Apii*. The usual treatment advised is spraying with Bordeaux mixture whilst the plants are young, and repeating at intervals of ten days or a fortnight, continuing up to about the middle of July. We have more faith, however, in the resisting forces of the plant, always give a change of ground to avoid canker (*Psila rosæ*) and a liberal dressing of soot and lime to the soil, with, sometimes, a little kaint. These help the plants along in the early stages, and if the fungus appears a dressing is given at once with finely powdered quicklime. In July we cut the plants over at the ground, removing every particle of leaf but the heart, and burn the parts removed. This we have found effectual, using a little quicklime on the plants. They send up fine leaves, and the fresher these are the better they are liked in the kitchen. We should cut the plants down, supply a dressing of soot and air-slaked lime in equal parts by measure, pointing or hoeing in. The plants need fortifying, then they will overcome the parasite, but it is well to clear it away. Do not save any seed from infested plants.

Points of Pear Shoots Blackened (G. T.).—The shoots are affected by what is known as Pear blight in the United States, and regarded as due to the presence of a specific germ—one of the bacteria—namely, *Micrococcus amylovorus*. But be that as it may, we certainly discovered the mycelial hyphæ of a minute fungus in the "yellowed" tissue of the leaves, which does not accord with bacterial trouble, though there were some extremely minute spherical bodies on the blackened points of the shoots. These accord exactly with *Micrococcus*. How these minute bodies can pierce the cuticle of even young shoots we have not been able to discover, but we can understand how they get into a wound and kill the twig, as may occasionally be seen in both Pear and Apple trees that show blackened shoot points. There is not the usual sticky substance on the leaves, but that may have been washed off by rain. There is no question about the blackening of the leaves, and, in some cases, young shoots. We have known the malady long before bacteria were called by specific names, and found that sturdy growing trees were the least liable, and those of rapid growth most subject to the disease. The usual fungicides harm the foliage, when supplied so as to kill the germs. We have found the best thing was to resort to such cultural methods as will tend to a slow, steady growth. First of all cut off all affected twigs to sound wood, and burn them, and then supply a dressing of quicklime (best chalk lime air-slaked) all over the tree. Some will fall on the ground; all the

better, then apply a dressing of kaint to the soil, 2 ozs. per square yard. Let the rains wash it in. In the autumn, as soon as the leaves change or commence falling, lift the trees, or root-prune, not doing too much one year, for the patient must not be injured. Supply some lime, if needed, and keep the roots near the surface. That process carried out carefully cured our trees, and they afterwards resisted the enemy.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*J. F. C.*)—*Pyrus Deceaisneana*. (*C. T.*)—1, *Veronica gentianoides*; 2, *Spiræa Douglassi*; 3, *Veronica tenerium*; 4, *Centranthus ruber*; 5, *Spiræa bracteata*; 6, *Myrica carolinensis*. (*L. R.*)—*Heuchera sanguinea*. (*W. A.*)—1, *Lysimachia vulgaris*; 2, *Leycesteria formosa*; 3, *Hibiscus syriacus*; 4, *Lythrum salicaria*; 5, *Eryngium amethystinum*. (*G. O.*)—*Aërides crassifolium*. (*R. T.*)—1, apparently a wild plant, of which there were no flowers; 2, a *Lantana*; 3, *Campanula isophylla alba*. (*John*)—*Deutzia crenata flore-pleno*. (*R. G.*)—No. 1 is *Salisburia adiantifolia*, the Maidenhair Tree. We are not at all certain about the other, and you neither mention its habit or height.

COVENT GARDEN MARKET.—AUGUST 3RD.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, ½ sieve ...	0 0	0 0	Grapes, lb....	1 6	3 0
Cobs ...	0 0	0 0	Lemons, case ...	11 0	14 0
Filberts, 100 lbs. ...	0 0	0 0	St. Michael's Pines, each	2 6	5 0
Gooseberries, ½ sieve ...	1 6	2 0	Strawberries ...	1 6	3 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0 0	0 0	Mustard and Cress, punnet	0 2	0 4
Beans, ½ sieve ...	0 0	0 0	Onions, bushel ...	3 6	4 0
Beet, Red, doz....	1 0	0 0	Parsley, doz. bnchs....	2 0	3 0
Carrots, bunch ...	0 3	0 4	Parsnips, doz. ...	1 0	0 0
Cauliflowers, doz. ...	2 0	3 0	Potatoes, cwt. ...	2 0	4 0
Celery, bundle ...	1 0	0 0	Salsafy, bundle... ..	1 0	0 0
Coleworts, doz. bnchs. ...	2 0	4 0	Scorzonera, bundle... ..	1 6	0 0
Cucumbers... ..	0 4	0 8	Seakale, basket... ..	1 6	1 0
Endive, doz. ...	1 3	1 6	Shallots, lb. ...	0 3	0 0
Herbs, bunch ...	0 3	0 0	Spinach, pad ...	0 0	0 0
Leeks, bunch ...	0 2	0 0	Sprouts, ½ sieve ...	1 6	1 9
Lettuce, doz. ...	1 3	0 0	Tomatoes, lb. ...	0 4	0 9
Mu-hrooms, lb....	0 6	8	Turnips, bunch... ..	0 3	0 4

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6 0	to 36 0	Heliotrope, doz. ...	4 0	to 6 0
Aspidistra, doz. ...	18 0	36 0	Hydrangea, doz. ...	8 0	10 0
Aspidistra, specimen ...	5 0	10 6	Lilium Harrisii, doz. ...	12 0	18 0
Caleolaria, doz. ...	4 0	6 0	Lobelia, doz. ...	3 0	4 0
Coleus, doz. ...	3 0	4 0	Lycopodiums, doz. ...	3 0	4 0
Dracæna, var., doz....	12 0	30 0	Marguerite Daisy, doz. ...	6 0	9 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	4 0	6 0
Erica various, doz. ...	12 0	24 0	Musk, doz. ...	2 0	6 0
Euonymus, var., doz. ...	6 0	18 0	Myrtles, doz. ...	6 0	9 0
Evergreens, var., doz. ...	4 0	18 0	Palms, in var. each ...	1 0	15 0
Ferns, var., doz. ...	4 0	18 0	„ specimens ...	21 0	63 0
„ small, 100 ...	4 0	8 0	Pelargoniums, scarlet, doz. ...	4 0	6 0
Ficus elastica, each ...	1 0	7 0	„ „ ...	8 0	10 0
Foliage plants, var., each	1 0	5 0	Rhodanthé, doz. ...	4 0	6 0
Fuchsia ...	5 0	8 0			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blooms ...	3 0	to 4 0	Mignonette, doz. bnchs. ...	1 6	to 3 0
Asparagus, Fern, bunch... ..	2 0	3 0	Myosotis, doz. bnchs. ...	1 0	2 0
Bouvardias, bunch ...	0 6	0 9	Orchids, var., doz. blooms	1 6	9 0
Carnations, 12 blooms ...	1 0	3 0	Pelargoniums, doz. bnchs. ...	3 0	6 0
„ 12 bnchs. ...	4 0	8 0	Polyanthus, doz. bnchs....	1 0	1 6
Eucharis, doz. ...	3 0	4 0	Pyrethrum, doz. bnchs. ...	1 0	1 3
Gardenias, doz. ...	1 0	4 0	Roses (indoor), doz....	0 6	1 6
Geranium, scarlet, doz. bnchs. ...	0 0	6 0	„ Red, doz. ...	0 3	0 6
Iris doz. bnchs. ...	4 0	6 0	„ Tea, white, doz. ...	1 0	2 0
Lilac (French), bunch ...	3 6	4 0	„ Yellow, doz. (Perles)	1 0	2 0
Lilium longiflorum, 12 blms	3 0	4 0	„ Safrano (English) doz.	1 0	2 0
Lily of the Valley, 12 sprays	1 0	2 0	„ Pink, doz. ...	1 6	3 0
Maidenhair Fern, doz. bnchs. ...	4 0	8 0	„ Moss, per bunch ...	0 9	1 0
Marguerites, doz. bnchs. ...	1 6	2 6	Smilax, bunch ...	1 6	2 0
			Sweet Peas, doz. bnchs. ...	1 6	3 0



IN CASE OF FAMINE.

SURELY that is a contingency for which we need not provide. Famine has an unfamiliar sound in our ears. We associate the word with Ireland and India. Irish famines are manageable; Indian famines are met by glorious contributions, and if some thousands of our dusky fellow-subjects come to an untimely end, they are so far off, so little known to us, that their ultimate fate affects us hardly at all. It is not that we are callous, but the world is so wide, and our sympathies so cut up, as it were, that the greatest calamities only call from us a passing tear or sigh.

But what if grim famine invaded our hearths and homes? What if our dear ones lacked their daily bread? The thing is impossible, say many; but we are not quite so sure of that. Our isolated position has its advantages and its disadvantages. There was a time when, as a writer of 1737 said, "England yields all things necessary for life." Now she does not—she cannot keep pace with her teeming millions. She sends them from her shores in numbers to populate her colonies, and yet her homes are full to overflowing.

We are now living from hand to mouth. We require annually not less than $6\frac{1}{2}$ millions of tons of Wheat and flour—we produce of that quantity $1\frac{1}{2}$ million tons. If every acre of land in this country were sown with Wheat, to the exclusion of all other crops, we should be very little nearer a solution of the difficulty.

What do we do, then? Why, we depend on supplies drawn from foreign lands. And how are those foreign lands reached—by overland route? No, indeed; "*ex ship*" is on every consignment. Our nearest supplies come from Russia. Russia suffers from periodic famine. India has a complaint of a similar nature. The United States and Canada are fairly handy, but there is a wide expanse of sea between Liverpool, New York, and Halifax.

Argentina has good supplies in time of plenty, but the voyage is long, though not so long as from Australia. Hitherto we have ruled the seas; will this be so in the future? How do our fleets compare with those of other nations? What might happen in time of war? Our corn-carrying vessels are not of the fleetest; any man-of-war could outsail them. And is our navy strong enough to make us feel perfectly secure?

It is so long since we were engaged in any naval encounters, that we can hardly gauge our own strength, and our vaunted strength may be weakness. Is it not possible, nay probable, that in case of outbreak of war with either America or the Continent the first step of the belligerents would be to cut off our food supplies? We think so. And armed cruisers would soon make things very uncomfortable for us. We could grow nothing here to take the place of bread stuffs, and it would be a case of peace at any price.

We do not want to contemplate the chances of war, but it is not wisdom to lull ourselves into a state of apathy and false security. There is corn in Egypt, but we want it in Canaan. We have the money and the ships, and corn is a commodity that will bear warehousing. In suitable granaries, and with just ordinary attention, Wheat will keep sound and good for years, and one year's provision in store would make us laugh our foes to scorn. A full man can fight and make his own terms; a fasting man is literally in the power of his enemies.

This is not a matter for the private speculator, it is Government business, and we think that if once we could get the nation to grasp the gravity of the situation, this scheme of public Wheat stores would become a burning question. What is the cost of building and equipping a man-of-war? Ask my Lords of the Admiralty.

What would be the cost of a reserve of 10,000,000 quarters of Wheat? Something like £1,250,000, might possibly be less, and the

feeling of security from famine would be worth the outlay. Bread has been cheap so long that any material rise in the price would be badly received by the denizens of our large towns. Their power is such that they could force the hand of any government, however strong; and hunger prompts to vigorous action.

We should condemn a government as supine in the extreme who failed to store an adequate supply of ammunition, but what about a government which fails to provide an adequate food supply.

Mr. R. B. Marston in "*Nineteenth Century*" for June suggests a plan by which our Government might keep a reserve, and yet not to constitute themselves corn merchants, except in time of famine. This is his proposal. That after Government has once bought a store it should "renew its reserve by taking shipments of newly imported corn and giving the importer an order on the Government stores for a corresponding quantity (value for value) of the Wheat imported twelve months previously. . . . The basis of exchange would simply be the quality and quantity of bread, an equal weight of the new Wheat and of the Wheat a year old would make."

This seems to us a feasible plan, and we believe that year-old Wheat, if well stored, makes better flour than the new. A supply in hand would give us a pleasant sense of security; and when the time comes when arbitration takes the place of actual warfare, and the armour plates of all nations are turned into trading craft, we may disperse our stores and live in the happy-go-lucky state of hand to mouth.

WORK ON THE HOME FARM.

We are having a spell of very hot dry weather, and though we hear of showers flying about, we have not been favoured with any. Everything is suffering except Wheat, which is already showing signs of changing colour.

Barley on light land is burning up very rapidly; some places are turning brown, whilst others keep their colour, the crop being almost heavy enough to go down without rain. The fields have thus a very curious appearance, and whatever the weather may be, the samples of grain must be very uneven in quality.

Second early Potatoes are dying fast, and rain could now do them no good. Late kinds want a good soaking if they are to be a satisfactory crop. The heat is suiting the Turnips—in fact, we can hardly get them hoed fast enough. The plant is a fair one, and with rain later on the crop should be good; at any rate, the plant is a very healthy one now. Weeds have been so easily killed lately that the second hoeing, or rather weeding, should require very little in the way of labour, and there will be no excuse for filthy Turnips this season.

Rain is wanted very badly for the aftermath. The piece of Clover, the crop from which has been safely in the stackyard for three weeks, has not made enough growth for a rabbit to hide in. Lamb meat looks like being very scarce, and the result is already seen in congested sheep-markets.

The other day we attended a cattle market, and saw sheep sold at £1 each. On the afternoon of the same day we saw a sheep knocked down by auction for 1000 guineas. It was of the same breed as the others, the only difference being that it was the best of its kind.

The old pastures have a fair amount of meat in them, but it is so dry that sheep are very bad to keep at home, and break fence repeatedly. It has been two men's work repairing fences this week.

When Turnip hoeing is completed, which we hope will be next week, there should be a clear week before harvest to devote to muck-leading and hedge-trimming.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. $51^{\circ} 32' 40''$ N.; Long. $0^{\circ} 8' 0''$ W.; Altitude 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1898. July.	Barometer at 32°, and Sea Level	Hygrometer		Direc- tion of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Tempera- ture.			
		Dry.	Wet.			Max.	Min.	In Sun	On Grass		
	inches	deg.	deg.		deg.	deg.	deg.	deg.	deg.	inches.	
Sunday	24	29.999	62.2	55.5	N.W.	62.8	75.6	50.7	117.1	46.8	—
Monday	25	30.084	65.6	59.5	N.W.	63.6	75.1	54.3	96.5	50.9	—
Tuesday	26	30.134	63.8	62.1	S.	63.9	73.1	61.2	96.4	50.2	—
Wednesday ..	27	30.082	67.9	63.3	N.	63.7	81.2	58.3	119.9	56.6	0.457
Thursday ..	28	29.987	63.9	58.6	Calm.	63.9	74.7	56.4	111.2	54.2	0.037
Friday	29	30.004	57.3	55.1	N.W.	62.2	61.4	52.2	106.8	48.8	—
Saturday	30	30.255	57.0	50.2	N.	60.4	66.2	50.1	114.7	47.9	—
		30.078	62.5	57.8		62.9	72.5	54.7	108.9	50.8	0.494

REMARKS.

24th.—Bright sun almost throughout.
 25th.—Dull (hazy or smoky) till 9 A.M., and generally overcast, but gleams of sun in morning.
 26th.—Overcast, hazy and dull, with smoke-fog at times; occasional faint sun after noon.
 27th.—Faint sun in morning; thunderstorm and heavy rain from 3.20 to 4.30 P.M.; overcast evening.
 28th.—Overcast early; fair morning, with occasional sunshine; showery from 1 P.M.
 29th.—Overcast and drizzly morning; gleam of sun at noon, then overcast again.
 30th.—Dull all day, and chilly in evening.
 A dull week, with very little wind; temperature very near the average.
 —G. J. SYMONS.

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**Journal of Horticulture.**

THURSDAY, AUGUST 11, 1898.

THE JOURNAL OF HORTICULTURE can be obtained from the Office, 12, Mitre Court Chambers, Fleet St., London, post free for a Quarter, 3/9. Editorial communications must be addressed to 8, Rose Hill Rd., Wandsworth, S.W.

COMPETITION.

COMPETITION is keen everywhere, and perhaps nowhere more so than at flower shows. Gardeners are fully imbued with the spirit to excel. Competition is the keynote of everything, for its presence brings out the best that is in us, and any undertaking lacking this important element is destitute of that which stimulates us to do our best work in order to achieve some cherished reward.

Glance through the pages of the *Journal of Horticulture* as it comes out week by week, seldom is there an issue that does not contain a report of at least one horticultural show, while during the rush of Chrysanthemums, Roses, and so forth, its pages are packed to overflowing. What does it all mean? Simply that as an institution the flower show is yearly becoming more popular, competition is growing keener, cultivation is getting better, and the general public is showing an increasing interest in the work of the gardener, be he amateur or professional.

It is not altogether to the professional gardener that this progress is due. The national love for horticulture has advanced hand-in-hand with education, and amateur gardeners, as growers of Roses, Chrysanthemums, Orchids, Carnations, Tulips, Auriculas, and other flowers, as well as fruit and vegetables, must receive credit for supporting so well many old, and inaugurating many new, societies and connective shows. There is another fact to be admitted—that there are many private gardeners who do not show—not because they lack the spirit or the ability to grow produce worthy of exhibition, but because they are desired not to do so. Fortunately this prohibition is not general, or exhibitions would not be so well supported as they are.

There is another section on whom horticultural societies have had a stimulating effect—village shows, now being held all over the country, where cottage gardeners display the results of their labour. The competition at these shows is just as keen, the results as jealously watched, and the interest quite as great as the annual shows at Shrewsbury,

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York, the Crystal Palace, and elsewhere. A working man recently observed, "It was the best thing that ever happened to this place when we started our Society a few years ago. Before then no one troubled about seeds and varieties of vegetables—the men saved their own. After the first show they were quick to see that they must have the best varieties, and now, if anything good comes out, our men are not long before they have it."—A SECRETARY.

WINTER SPINACH.

IN the forties of the present century I first made acquaintance with the growing of this much esteemed vegetable, and of an old gardener who had grown it on the same soil—a stiffish loam over clay—for over half a century. This veteran averred that there were but two sorts—Round or Summer, and Prickly or Winter; that the first named was a tender plant, and the last mentioned a much hardier form. The "old hand" always saved his own seed of the Prickly or Winter, and on the principle of "natural selection"—that is, the plants that had stood the winter the best, had given the largest and most fleshy leaves, and thus the hardiest and sturdiest in constitution, were saved for seed. This procedure had been carried on for half a century.

In calendars it is advised to commence sowing Winter Spinach in July, and continue at intervals until the end of September, or later in warm districts. I do not know whether anybody has ever practised the doctrine set forth or not, but I have demonstrated that the best and only necessary time to sow Prickly Spinach is from the 5th to the 10th of August. Early sown, I admit, gives an early autumn supply, and the plants bolt in the spring before the warm border-sown Round comes into use. In warm localities and situations the late sown Prickly may live over the winter, and supply a cutting in the early spring. There is no difficulty in having Round from June to October inclusive, and one sowing of Prickly at the time named will meet the requirements for either home use or market for the remainder of the year. This must be taken relative to locality. North of the Thames the middle of August is quite late enough to sow Prickly Spinach, and neither the Flanders nor the Lettuce-leaved forms of the Round-seeded are always reliable. South of the Thames, and in warm localities there, only Winter Spinach may be sown as late as the middle of September; but I have not had personal experience in this district.

Winter Spinach requires a favoured situation, both as regards shelter and relative dryness of soil. A south border is the most suitable position, and Spinach is hardy or otherwise as the soil and culture promotes the one or the other. In most cases Winter Spinach is taken after an early summer crop, such as early Potatoes, Peas, or Beans. These offer good rotations. Pea land is often very dry after clearance, and Summer Spinach may have been taken between the rows. I do not use such for Winter Spinach, but if no Summer Spinach has been grown, I usually manure with Mushroom bed refuse, and dig or rather fork in some time in advance of sowing. This gives the land a chance to mellow and become moistened as well as moderately firm. Ground from which Cabbages have been cleared is treated similarly. If following Potatoes I merely point over to get cleanliness and a good surface tilth for sowing. Light soil must be firmed before sowing; well tilled loam or clayey land usually becomes close enough, and if it has a suitable surface for sowing on need not be firmed. On light ground I give a dressing of kainit shortly before sowing, about $1\frac{3}{4}$ lb. per rod, partly to quiet slugs and make the plants grow stiff and hard, while on heavy land I use quicklime, 1 st. per rod. The rows may be 18 inches apart, and about an inch from seed to seed, and that depth, rolling afterwards. I usually sprinkle the seeds with a little petroleum, and work in so as to moisten, or red-lead them before sowing. Birds—the finch tribe—do not then take the seeds. If dry, water the drills before sowing the seeds, this being needed on dry borders.

The after management is very simple, the hoe being "run" as soon as the plants are perceptible in the rows, and the singling effected shortly after coming into the second leaf, allowing 4 inches distance. This allows for casualties and for early gathering. In September the supernumeraries may be plucked from or withdrawn altogether by the early part of October, leaving the best plants as near as may be a foot apart. I use a dressing of soot, about a peck per rod, at the final setting out, and keep it from the hearts of the plants. That puts colour into the leaves, and so also does guano, but not more than $1\frac{3}{4}$ lb. per rod must be used, as too much makes the leaves tender. The leaves are large enough for anything after the middle of October, and in picking the largest should be selected during the winter and early spring.

The Spinach grower's troubles commence with the seed sowing. Unless precautions are taken against birds these will have some of the

seeds, and slugs are particularly fond of the seedlings. These are easier prevented than cured, dressings of lime, or soot, or kainit, or nitrate of soda being far more effective in a dry time than genial weather, therefore use before sowing as a safeguard. The plants also are liable to mildew whilst quite small. The young leaves begin twisting upwards and show a white mould—the fungus called *Peronospora effusa*, but a little air-slaked lime dusted on the plants from time to time, holding the hand well down so as to get on the under side of the leaves, and working both ways so as to reach all parts, soon causes the parasite to take its departure. A sort of canker also bothers growers, but liming the land before sowing, and giving the plants plenty of room from the start, usually prevents much damage being done. Then a certain grub takes a fancy to some Winter Spinach plants when they have got two or three rough leaves, and eats the root stem through just beneath or on a level with the soil, for which I have found unearthing to be the best remedy. I have also used gas liquor diluted with six times the quantity of water, keeping it from the leaves, effectively.—EXPERIMENTALIST.

SCALDED GRAPES.

OLD notions die hard, especially, perhaps, in matters horticultural and its allied sciences. The so-called scalding of Grapes is a case in point, and notwithstanding the formidable army of my esteemed scientific and practical friends arrayed against me, I will once more say, and that with more emphasis than ever, that they are entirely wrong. One of these, a friend of more than forty years, whom I both love and honour, says, as quoted on page 63, scalding "is caused through late or imperfect ventilation on some bright sunny morn. whilst the atmosphere, and even the berries, are saturated with moisture."

Now, have your readers never heard of cultivators who keep up a night temperature of about 70° with ventilation at the same time, and yet have scalded berries? There certainly is not much chance for dew to form on the berries under these conditions.

I once had some berries of Gros Colman scalded, and this is how it happened. Painters were at work on the roof of the house during a hot summer day, and in the afternoon, without my knowledge, four top ventilators, worked by a lever, were closed, and remained so for the purpose of shifting the ladder along, and the mischief was not long in showing itself.

No; scalding is not caused by moisture on the berry, neither is it caused in the morning unless under gross mismanagement, and, finally, I question if scalding, or even chilling, are proper names for it. The evil is simply caused by too high a temperature at a certain period of the Grapes' progress.

During the first three weeks from setting the growth of the berries on a vigorous Vine enlarge at the rate of $\frac{1}{32}$ part of an inch every twenty-four hours. After this the measurable growth is less and less till we approach the period when the stone becomes quite hard, and no enlargement at all can be detected, the berries rather seem to diminish in size.

This is the critical time. Do what you will in the way of encouraging growth, you apparently get nothing for your pains; even the leaf growth is affected. Why, then, attempt the impossible? Depend upon it there is some reason for this apparent stagnation.

If you do not allow the temperature to rise higher than 80°, and that is quite high enough for this stage, you will have no scalding. Let it keep up to 95°, or higher, for some hours by either artificial or natural means, and you will have a rupture of some of the cells of the berries, whether they are moist on the surface or not. This critical period only lasts a few days, after it is over you may force to your heart's content.

Why one berry should be injured, and another not so, can probably be explained by the *savant* who can tell us why one Potato gets killed by the frost, and another one close to it is uninjured.—WM. TAYLOR.

ERYTHRINA HUMEL.—A specimen of this showy South African plant can now be seen in flower in the temperate house at Kew. The plant is 8 feet in height, with a small bushy head. Naturally it assumes the proportions of a small tree. The flowers are produced in stout upright racemes, 1 to 2½ feet in length, from most of the nodes on the upper part of the current season's growth, one branch carrying eleven racemes. The individual flowers are 2½ inches long, scarlet, and pendulous, and rather densely arranged on the upper half of the raceme. The foliage is decidedly ornamental; the leaves are ternate, 9 inches to 1 foot in length, bright green, with occasional prickles on the petioles and midribs. It can be grown and flowered successfully as a pot plant, but does much better if planted in a border in fairly rich loamy soil. Being deciduous very little water is required after the growth is completed, and during the winter months it should be kept quite dry. An intermediate temperature will be found most suitable for the growing season, keeping a little cooler during the resting period.—W. D.



NATIONAL ROSE SOCIETY'S METROPOLITAN SHOW.

I AM desirous of correcting an error in my notes on the above show with regard to the medal Roses. My friend Mr. C. J. Grahame has pointed out to me that the silver medal for the best H.T. was awarded not to Mr. B. R. Cant, but to Messrs. Paul & Son; but I am not quite to blame in the matter, as by some extraordinary blunder the name on the card was put Mr. B. R. Cant, and placed in Messrs. Paul & Son's box. Mr. Grahame saw it and had it altered, but I suppose I had taken my note of it before the alteration was made. As I have mentioned Mr. Grahame's name I ought to supply an omission in my account of the origin of the southern show, that it was he who originated the idea of adding Hybrid Perpetuals to the classes at the Drill Hall, and indeed offered the prizes, so that it may be said that the southern show owes its origin to him; but in truth, he has been so generous a supporter of the N.R.S., and has given so many valuable prizes to it, that I may be well excused for not remembering all of them.—D., Deal.

LOOKING BACK.

It is said that when a certain witty American author wrote his humorous description of a trip on the Continent, he himself had never made the tour, and I remember reading a story in which the scene was laid in one of the colonies, and very realistic descriptions were given of the scenery and inhabitants, so that one was obliged to say the author must have been a keen observer, yet one found afterwards that he had never been out of England. I am therefore following good examples when I write something concerning the National Rose Society's show at Halifax. Kind friends, on whose judgment I can rely, have given me some particulars, and there are other matters that are clear and patent, so that anyone who runs may read. I was there myself four years ago, I know the place where the show was held, and the whole exhibition is present to my mind's eye.

The first thing I think that strikes one in looking through a prize list is to see how large a proportion of the principal prizes went to southern growers, both in the amateur and professional classes. It was a southern grower, Mr. E. B. Lindsell, who carried off the amateurs' challenge trophy; while, as might have been expected, in their own county and near their own home, Messrs. Harkness & Son carried off the nurserymen's challenge trophy, though they were run very closely by the Colchester firm. As far as my recollection serves me, the amateurs' Jubilee trophy has never since the retirement of Mr. T. B. Hall been won by a northerner—by northerner I mean anyone living north of the Trent, which amongst florists has been generally considered the dividing line betwixt north and south. It would include in the former division growers in Leicestershire and Derbyshire; while Worcester, Hereford, and Gloucester would, of course, be reckoned as belonging to the southern division. The lateness of the season this year gave the latter a great advantage, although I think in most seasons the result has been the same. The Hybrid Perpetuals were generally exhibited in better condition than at either of the preceding shows of the National this year; and Mr. Lindsell's stand, with which he won the challenge trophy, fully maintained his high character as a grower and an exhibitor, for the two things are distinct. An amateur may grow well, and yet not know now to set up his flowers.

The most remarkable feature probably of the show, with the exception of the gold medal Roses, were the abundance and excellence of the Teas and Hybrid Teas. This was shown, not merely in the classes especially set apart for them, but in the number and quality in the stand of mixed varieties; indeed the difficulty was to find H.P.'s which would be equal in point of merit with the Teas. Of course, as might have been expected, the winning stands of Teas, both in the nurserymen and amateur classes, came almost exclusively from the south, Mr. Alex. Hill Gray leading the way in the amateurs' division, and Mr. Prince in the nurserymen's.

The exhibition was remarkable in another respect—namely, that three gold medals were awarded for new seedling Roses. Two of these were gained by Messrs. Dickson & Son of Newtownards, and one by Messrs. Cocker & Sons of Aberdeen. Messrs. Dickson's flowers were Mrs. Edward Mawley, a Tea Rose of attractive colour, being a mixture of soft pink and yellow; the other was Mildred Grant, a Hybrid Tea Rose of large size, pale flesh colour. This, unlike Mrs. Edward Mawley, has not been seen before; but we have so many of these light Roses that I do not think the Judges

would have awarded it a gold medal if it had not some exceptional merit. The Rose by which Messrs. Cocker & Son gained the gold medal from far Aberdeen, Mrs. James Cocker, is a hybrid between Mabel Morrison and Mrs. John Laing. They write of it as a fuller sweet-scented Baroness, and as such it will doubtless be acceptable to most rosarians. Thus altogether five gold medals for new Roses have been awarded this season. There is not, however, one dark Rose amongst them, and it is in that class that we especially desire additions.

The Roses for which the silver medals were awarded in each division were in Hybrid Perpetuals Mrs. John Laing, exhibited by Mr. B. R. Cant, and Her Majesty, shown by Mr. Whittle; in Hybrid Teas Lady Mary Fitzwilliam, a fine bloom shown by Mr. W. Boyes of Derby, and Bessie Brown, shown by Messrs. Dickson and Sons, Newtownards. This is the Rose for which a gold medal was awarded to them at Bath, and it is considered by some on whose judgment I can rely, as one of the best Roses yet obtained by this firm. In Teas the medals were obtained by Catherine Mermet, a grand bloom exhibited by Mr. E. B. Lindsell, and by Comtesse de Nadaillac shown by Mr. Prince of Oxford.

Garden Roses were again a great source of attraction. They, too, came, many of them, from a considerable distance—Messrs. Paul and Son, Cheshunt; Messrs. Cooling & Sons of Bath; Mr. H. V. Machin came from Worksop, the Rev. J. H. Pemberton from Essex, and Miss Mellish from Hodsock Priory. At this time many of those single Roses, which were conspicuous at the early shows have passed out of flower, but a number of very beautiful blooms were shown; amongst them were Gustave Regis, Bardou Job, Laurette Messimy, L'Idéal, Allister Stella Grey, Perle d'Or, Mignonette, Crimson Rambler, Gloire de Polyantha, and Madame Pernet Ducher. Nor must I omit to mention the decorative stand set up by Mr. Prince of Oxford, in which more taste seems to have been exhibited than is usual in these classes; the centre consisted of a fine group of Comtesse de Nadaillac, surrounded by light bunches of garden Roses charmingly arranged.

It will be seen how loyally members of the National have supported the Society, and contributed to make the Halifax Show one of the best provincial exhibitions that was ever held. They came from all parts except the very southern counties, and it is pleasant to have to record that they did not come in vain. It must have been very gratifying to Mr. Hill Gray, for instance, that although he had to exhibit from a very early place in a very late season, that he carried off the chief honours amongst Teas.—D., Deal.

THE DAHLIA.

THIS beautiful plant is a native of Spanish America, and though noticed by the Spaniards about the middle of the seventeenth century, did not attract much attention till it had flowered at Madrid in 1790, when Cavanille described it in the first volume of his "Icones." In 1802 he sent plants to Paris, where they were successfully cultivated by M. Thonin, who shortly afterwards published coloured figures and a description of the plant. The first introduction of the Dahlia into England was made by the Marchioness of Bute in 1789, but these plants were soon neglected and lost. In 1802-3 others were sent here from Paris, and in the following year some seeds came to hand from Madrid. Yet for several years afterwards the Dahlia made but scant headway amongst us—indeed, being hardly heard of.

Their habits were unknown, and the plants increased very slowly, although on the Continent during this time innumerable beautiful and positively splendid blooms were being produced. In fact, it was not until after the peace of 1815 that the Dahlia came fully amongst us in the full variety of its many tints of colour, exciting the astonishment of every beholder, and the joy of those who could number the possession of such beauties among their own collections. Since that time they have rapidly increased and improved, and this country can now boast of varieties as superb as any in the world.

The Dahlia takes its name from Andrew Dahl, a Swedish botanist, and ought to be pronounced with the *a* open, as in *far*, to distinguish it from a very different genus, *Dalea*, called after our own countryman Dale. It belongs to the natural order Compositæ, and is now so common that anything like minute description is quite unnecessary. In form and stature it is Proteus, in tints it is a vegetable prism; neither are the forms or colours constant in the same individual. The first flowers will be single and of one colour, and the last double and another hue; and such is the versatility of the self colour of a parent, that its seedlings will be edged, or striped, or blotched, and altogether as unlike the parent plant as change of colour can make them. I am not aware of a blue variety ever having been reared any more than a blue Chrysanthemum; indeed, according to an eminent authority, De Candolle, the production of such a hue in the Dahlia is impossible.—WM. NORMAN BROWN.

CALLS IN THE NORTH.

IN these days of quick travelling it is not difficult to take a run of say 150 miles, detrain, make a call, see a gardener and a friend or two, and resume the journey without losing any great amount of time. Even if you should be benighted in a cemetery or otherwise, the time spent may not be "lost." On the contrary, the rest, the change, the pleasant associations enjoyed, may afford abundant compensation, and gain instead of loss be the eventual result. This is where the advantage of a short holiday comes in to gardeners as well as other members of the community; but unfortunately all gardeners, through some cause or other, are not privileged to benefit by the respite from the yearly round of toil.

REST FOR GARDENERS.

Rest has come to be regarded as a necessity to persons engaged in various pursuits—commercial, professional, educational, clerical, and mechanical; but not to the same extent to the busy workers who are confined from one year's end to another within the confines of the garden, yet no class better deserves such temporary release, or would benefit by it more, than earnest, industrious, zealous gardeners. True they might spend the greater part of their little holiday in gardens, just as 'bus drivers are said to spend theirs in sitting beside a brother jehu "on duty." Whether the rest in this case gains anything or not by his change cannot be said, but no gardener who is observant can inspect the work of his able brothers in the craft without being the wiser for the experience. After this little plea for a little rest by worthy men, where it can be granted, let us travel on and change at one or two junctions.

THE PRODUCTIVE NORTH.

No southerner who is interested in the land and its cultivation, could fail to notice and admire the fulness of the fields as he passed through the north-eastern counties of Durham, Yorkshire, Notts, and Lincoln. Where the land is good in staple (for there are weak veins or tracts) the various crops were a pleasant sight. The hay harvest in progress was a heavy one, and the produce being secured in the best of condition at comparatively small expense. The fields of corn resembled rolling waves under the influence of the more than gentle breeze. Straw at least, like grass, was produced in abundance, but whether the heads or ears of golden grain, if golden it be, will be in proportion, grave doubts are entertained, because of a cold damp visitation at flowering time—at least, so say some farmers, though it must be conceded that the majority of this great craft have acquired, or inherited, somewhat pessimistic characteristics. Let us hope that in this particular case of assumed light heads (of grain) they will be joyfully deceived. Turnips and Mangolds were covering the ground luxuriantly over many a field, while finer growth could scarcely be desired in Potatoes, save in a damp hollow here and there, where the tops had been cut by a July frost. We arrive at Retford, where Celery is planted between rows of Potatoes 3 feet, or perhaps a little more, apart, and the two crops, well grown, ought to be fairly profitable. A change is made for a run eastwards, for a call on friends and cherished gardens.

A ROSE TREE.

"And what about that?" may be asked, "since there are thousands of them in every county." No, not of "trees," but only of "plants," which fill beds and borders and nursery squares. These plants may yield one fine bloom from a "maiden" to some half dozen, more or less, from a "cut-back," and these in the aggregate furnish our splendid exhibitions—the finest, we are vain enough to think, in the world, as showing the Rose in the highest phase of cultural development. The object of our quest was not a mere border plant, affording one to six glorious blooms, but a real "tree" carrying 12,000 dainty flowers and buds, and might have carried 2000 more. It is illustrated, and the dimensions given in Mr. Foster Melliar's well known (or ought to be) "Book of the Rose." The mention of this calls to mind a circumstance that would not justify anyone granting a medal to the writer for prudence. Admiring the book, a friend asked its owner if he would be so kind as to allow it to be taken home and read. He was in a yielding mood at the moment—a weakness that is not chronic—and hence said, "Yes, you can take it and keep it till you have read it, and then return it." Though about two years have elapsed since then, the cherished Rose book is not yet read, or it would, presumably, have found its way back to its home again. If this meet the eye of the deliberate reader he may perhaps be so kind as to make an effort to get to the end of the last page some time during the present season. In its absence the dimensions of the tree as there embodied cannot be given here. Suffice it to say, therefore, that Mr. Fisher's Weeping Rose far excels the illustration, which lost much in effect by the enormous reduction. It is the Ayrshire Rose, Ruga, and the result of the owner of it mounting a pair of steps, some years ago, and inserting a few buds at the top of an abnormally tall Briar. Its branches arch over and rest on the ground, and half a dozen persons might shelter beneath its floriferous tresses, around the substantial central

stem. To this there is an entrance (at the sacrifice of 2000 flowers) made by or for the child of the family—little Miss Daffodil Fisher, and surely no little lady fair ever had a fairer Rose bower than this. There are other Roses in the much-enjoyed garden—robust "plants" in beds, which under sound culture bear splendid blooms, and plenty of them, on the strong summer growths of last year, bent down and fixed in an arched position; but these fine H.P.'s, though individually beautiful, lose in effect by comparison with the grand central "tree."

A WORKING MAN'S ROSES.

Nothing is more pleasant to see than the great and growing interest that is taken in flowers by the industrial classes of the community. Their lives are made more interesting and their homes more enjoyable by the floral surroundings. One person will devote his attention to one particular flower, another to another, while some do not appear to be satisfied without having all that can be induced to grow within the areas at disposal; but if you want to see any special kind represented in the best form it must be sought in the garden of a specialist. Mr. Robert Jackson, woodman, is evidently "gone" on Roses. His cottage garden is perhaps nearly half an acre in extent, and a central path some 50 yards long leads through it to his pleasant home. On each side are narrow borders furnished with standard Roses of ancient and modern varieties, including heads of Eugène Appert, dense masses of fiery beauty. The whole extent of the land on the left of the path is occupied with the best varieties of Roses obtainable—grown as dwarfs in the best possible manner. The preparation of the ground as to trenching, enriching, and planting, as well as pruning and other items in routine, are all conducted as if by an up-to-date professional; and it is not too much to say that many an exhibitor whose name is a household word in the Rose world would have rejoiced in the opportunity for cutting such splendid blooms of the Newtownards and other leading Roses as this devoted grower of them produces, and why?

THE SECRET OF SUCCESS.

He grows them well because he loves them. That is the secret of it all, for love begets knowledge and makes labour a delight. If it were not so hundreds of gardeners, amateur and professional, would never achieve the results which redound so much to their credit and minister to the happiness of their lives. "But surely," some severe utilitarian may say, "the man might do much better for himself by growing substantial food crops instead of Roses." But stay. He does grow them—all he needs—on the "other side," and has happily learned that the same thorough cultivation which enables him to grow so well the flower he loves has the same effect on his Peas, Beans, Potatoes, Onions, and other necessities of the household, and also enables him to produce more of these of the first quality on half the land at his disposal than half the working men in the kingdom would obtain from the whole of it. This is a simple sober fact. Robert Jackson evidently loves his mother earth, and richly she rewards him for his labour and zeal. The stimulus is the Rose.

GOLDEN HAMBURGH GRAPES.

Near by is the Hall—the ancestral home of a long line of baronets, and, as the last of these has gone, is now inhabited by a gentleman whose name is better known in the agricultural than the horticultural world by his success in improving shire horses for the benefit of the district, though it has extended, and will extend, far beyond the confines of his estates. Mr. Sutton Nelthorpe is a good and generous squire, and likes to see all happy around him; and without any doubt he has a sound and industrious gardener in Mr. Edward Semper. As one of the students who passed with credit the last examination of the Royal Horticultural Society, a desire was felt to see whether he was a dandy or a worker. A grip of the hand satisfied that he was one of those worthy men who do not flinch from honest labour, but who would rather enjoy it, if not in so many cases simply overwhelming; and then, though a greater listener than a talker, it was not difficult to perceive he was a student, possessing a good grasp of the scientific principles which underlie successful practice in horticulture. In some four years he transformed a range of grapeless vineries into the most satisfactory productiveness, the Vines succeeding infinitely better with their roots outside than their predecessors did planted inside, with no chance of escape for the roots except in and through the subsoil. Several varieties are grown well, though many and fine bunches of a white Grape were, as Rev. D. W. Williamson would say, the most "impressive." They afforded, perhaps, the best representation of the Golden Hamburgh to be seen in England at the time—full well-shouldered bunches, furnished with fine uniform berries, free from spot or blemish. They were not quite ripe, so the quality could not be tested, but in association with equally good Black Hamburghs had a most attractive appearance. "A round white Sweetwater Grape, not suitable for for ing, second-rate, and unworthy of cultivation" is Mr. Barron's verdict. He also states it to be synonymous with the Italian Grape Lulienga Bianca. Dr. Hogg has described this Grape as follows:—"Bunches large, loose branching and shouldered;

berries large and oval; skin thin, and when highly ripened pale amber; flesh tender and melting, very juicy, rich, sugary, and vinous. An excellent Grape, but requires careful cultivation, as it soon decays after ripening at the point of union with the stalk."

ORIGIN OF THE GOLDEN HAMBURGH.

On this point the Doctor has left the following item of information:—"In August, 1855, Busby, the gardener at Stockwood Park, exhibited a Grape at the meeting of the Pomological Society, which was reported to have been raised from the Black Hamburg crossed by Dutch Sweetwater, and it was pronounced by the Society to be the best of all the white Grapes except the Muscats. Busby sold the Vine for a large sum to Mr. Veitch of Chelsea, who sent it out in 1857. Suspicion was aroused that the Vine had not been raised by Busby as he represented, but was brought from the South of Europe by his master, Mr. Crawley; and it eventually turned out that this reputed seedling was none other than Luglienga Bianca, which was growing in the Horticultural Society's garden." It seems that "Busby," though he made a serious mistake, grew the Grape much better than it was grown at Chiswick, and perhaps much the same as grown by Mr. Semper, though his bunches are not "loose," while the crop is excellent, and the Vines the reverse of sickly in appearance. Mr. Barron observes that this Grape succeeded extremely well at Chiswick for a good many years, but subsequently degenerated, adding "it does pretty well grafted on Black Hamburg." It would not be inappropriate for Mr. Semper to record his experience with the Grape that he grows so well, sending at the same time a sample of wood, foliage, and fruit, for close examination. They shall be submitted to Mr. Barron, if he can be discovered, as he has presumably a better acquaintance with Lulienga Bianca than has any other cultivator in this country. Whatever Mr. Semper's Grape may be, both it and he were worthy of a "call," and this paid another move was made southwards, but once more the journey broken, and this time at historic Lincoln.

DODDINGTON HALL.

During the past two or three years a young gardener distinguished himself in the vegetable classes at sundry shows. After winning the gold medal at Cardiff and the "Sutton" Jubilee cup at Shrewsbury, he left the scene of his labours in South Wales, and soon afterwards found himself in charge of the gardens at Doddington. Inquiries having been made by a gentleman relating to Mr. Charles Foster, a desire was felt to see how far he was settled in his new home. A drive of seven miles, with time between the trains, afforded the opportunity. No attempt will be made to describe the gardens; that was not the object, and it must suffice to say that Doddington is the grand old home of a well known county family, of which the present head is G. E. Jarvis, Esq.; that the surroundings are attractive by their quaint old-world character; that Mr. Charles Foster is perfectly happy in his pleasant home, and that his connections with the family and everybody else have been of the most agreeable character up to date. He finds that the gardens are cherished, and means to try his utmost to make the best of the resources in the production of flowers, fruit, and vegetables, and does not quite expect to fail. They were found entirely creditable to him, but the main point is that he would like for his friends to know that he is comfortable, and it is certain they will be very pleased to hear it.

A BEAUTIFUL ROSE GARDEN.

Passing the Manse at Bracebridge a call was made on the chance of finding the author of the interesting garden—Rev. C. C. Ellison—at home. Fortunately he was, and never was a fifteen-minutes visit more thoroughly enjoyed. He is called the author of the garden because he made it. Many years ago, a new railway passing through part of his property, he was wide enough awake to arrange for as much of the fine top spit of turfy loam he liked to be placed where he wanted it. Thousands of loads were probably carted in and formed into banks, slopes, and dells. Evergreens were judiciously chosen and planted for serving the double purpose of ornament and shelter. The main body of the ground was planted with fruit trees—hundreds of them. They now form avenues, and charming must the effect be in blossoming time, though this year, at least, the branches do not bend down with loads of fruit. On the south side of the garden enclosures were made for Roses—forming, in fact, a series of Rose gardens linked together by pleasant paths. Most or all the best Roses, chiefly H.P.'s, are grown as dwarfs, in many instances half a dozen plants of a variety planted together. Both as regards vigour of growth, cleanliness, abundance, and quality of blooms it would be difficult to imagine a finer example of Rose cultivation. Hundreds, if not thousands, of people had been delighted by them on the occasion of garden parties the previous week, and it was a floral treat of no ordinary character. The most attractive enclosure slopes into a small valley, and as viewed through an embrasure of foliage, across a small sheet of water with the dense evergreen boundary, the Dean of Rochester was constrained to pronounce it the most beautiful Rose garden in England, and certainly nothing quite so charming in its way has been seen by—
A JADED JOURNALIST.

NOTES ON ALPINE FLOWERS.

WITH the end of July we feel that the most attractive season for alpine flowers has passed away. Autumn flowers are, as a rule, too tall for the rock garden, except on a large scale, and the most beautiful of our alpine plants are long over. Those left suffer, also, in comparison with the showier occupants of the border and the beds on the level. If, however, we look through the rock garden at the close of July we still see many plants in bloom. With a view to presenting, as it were, a more suggestive article for those wishing to plant flowers to bloom at this time than is given by my usual notes, I write the following now.

CAMPANULAS.

Portenschlag's Campanula (*C. Portenschlagiana*) is over in the meantime, but later we shall have a few flowers, although few in comparison with the profusion earlier in the year. The various forms of *C. carpatica* are, however, blooming freely. Among these may be noted *C. c. turbinata* and several of the pelviform varieties of various shades.



FIG. 19. LINUM ARBOREUM.

C. haylodgensis is very pretty also, with its pale blue flowers and yellowish foliage. So is *C. G. F. Wilson*, another hybrid with deeper coloured flowers; *C. Waldsteiniana* is attractive with its small flowers on graceful stems. *C. carnica* is also full of flower, and *C. pusilla*, in its blue and white forms, is, as usual, covered with its little bells. *C. Hosti* is flowering freely, and other dwarf species are pleasing as well.

YELLOW FLOWERS.

The yellow Flax—*Linum flavum*—is very pleasing, and is fairly hardy even where *L. arboreum* (fig. 19) fails. Other yellow flowers are not so plentiful as in the earlier season, the brightest perhaps being some of the *Helianthemums* which have not yet finished their bloom. The yellow Stonecrops are nearly over, and *Meconopsis cambrica* only needs a beginning to become a troublesome though pleasing weed. *Coronilla iberica* is also beautiful, and the larger-growing *C. varia* effective as usual.

OXALISES—CRUCIANELLA.

Oxalises, which have flowered for some time, are not yet out of bloom. For sunless days they are of little value, but now they are bright and cheerful. *O. Bowiana* and *O. floribunda* are among the best of the hardy varieties. The quaint *Crucianella stylosa* lasts in flower a long time, but should not be planted beside the more diminutive alpines, and it may be as well to say that it ought not to be planted in a place

frequented in the evening or in wet weather by those keenly sensitive to odours. It has a peculiar odour at such times, which is to some unpleasing. Its flowers are so distinct that its odour and its rambling habit must, with this precaution, be condoned.

GERANIUMS.

Some of the dwarf Geraniums are pretty still with the allied Erodiums. None of the former pleases better than *G. sanguineum* var. *lancastricense*. The white variety of *sanguineum*, considered by some a hybrid, is quite distinct and of much larger growth. Less easily grown is *G. argenteum*. Of the Erodiums none is prettier than the dwarf *E. Richardi* which, unfortunately, sometimes succumbs to a wet winter.

VIOLAS AND PINKS.

Very pretty in the rock garden are the miniature Violas, of which *Violetta* is the type, and is still, perhaps, the best of all. They come in very usefully at this season, and can be used to brighten up dull spaces.

The Maiden Pinks are also charming flowers at this season. Albeit somewhat too cheap for those who pride themselves upon the possession of rare plants alone, these varieties of *Dianthus deltoides* can hardly be dispensed with at this season. Their pink flowers are pleasing on their grass-like plants, and the variety *albus* is usually much admired, with its white flowers with pink centre.

PLATYCODONS.

The Platycodons or Balloon Flowers are highly thought of wherever seen. The best for ordinary rockwork are those known as *P. Mariesi* and *P. Mariesi album*. Their dwarfer habit makes them more suitable than the taller plants bearing the name of *P. grandiflorum*. The white *P. Mariesi album* is now more commonly seen than a year or two ago, but can hardly compete in beauty with the typical blue form. As we look on the rock garden we see many other flowers; some noteworthy because of their blooms, but more pleasing on account of their foliage. The season is nearly over, but there yet remain attractions for the alpine lover, who grows a good collection of these miniature plants.—ALPINUS.

(To be continued.)

EXPERIENCE WITH STRAWBERRIES.

VERY glad am I to see this discussion in our Journal. We all grow Strawberries—at least, we all want to grow them, and try to grow them, so that the question is generally interesting. Some succeed and some do not; those who succeed swagger, and those who don't "cuss" (no irreverence meant, Mr. Editor). It is a queer subject; amusing, too, when you come to think of it. It may be put in paradoxes, opposites. (a) Everybody can grow Strawberries; everybody cannot grow Strawberries. (b) All sorts do well on all land; all sorts do not do well on all land.

I deduce these paradoxes from what I hear and what I read on Strawberry growing. As a rule, though, Strawberries are grown on some ground, with some varieties, of some quality, with an average amount of satisfaction we must all confess, and do confess, and it is these confessions which are so interesting, and amusing, and instructive.

I have tried most of the leading sorts, and this year I specially name Royal Sovereign, Scarlet Queen, President, and Newton Seedling. As economy is written in very large letters all over my garden and garden arrangements I have to go very carefully, and it is my custom to get in each year one or two of the new varieties which are said to be good. My custom is (because of economy) to get a dozen or so of runners of these new sorts and plant them in some outside border, watch their actions the next season, and either add them to my collection or turn them out, as they show up their qualities.

For instance, last year I got in runners of Leader and Monarch, and the result of their showing this year is that I shall plant every runner of Leader I can get, but of Monarch only a very few. Why? Well, Leader shows, on my ground, that it will bring plenty of fruit, and quantity is a first consideration; whilst Monarch had too many "blind" to warrant a very extensive planting.

I do not throw Monarch out entirely, for the reason that "blind" plants, even on many prolific varieties, have been very prevalent this season, John Ruskin, for instance, and I think it is only fair that I try it again; and probably, if all is well, I may be able next year to give it a better character. If I were reduced to two varieties I should choose Royal Sovereign and President. The two I have marked to get as trial sorts this season are Louis Gauthier and Veitch's Prolific.

I should like to say a good word for Gunton Park and Lord Suffield, but my trial does not justify me in doing so, though a near neighbour has done well with it (Gunton Park), and has great words of praise for it, but not so well with Lord Suffield.

There is no crop so odd in the likes and dislikes for land as Strawberries, except Potatoes. What will do in one garden will not do in another, and in gardens not so far apart either, and we all have to find out what will do, and what will not do; hence the great value of this timely discussion on Strawberries in our Journal.—AN OLD PROVINCIAL.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL.—AUGUST 9TH.

THE exhibition at the Drill Hall on Tuesday was one of the smallest that we remember seeing. Orchids are always scarce during August, but herbaceous flowers are generally very numerous. On this occasion, however, this was not the case, and empty space was too apparent. Fruit was well staged, especially the Gooseberries and Currants from Messrs. J. Veitch & Sons, Ltd., Chelsea. The collection of these hardy fruits was a representative one, and was the source of much interest.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); with Rev. W. Wilks and Messrs. T. F. Rivers, J. H. Veitch, G. Bunyard, J. Cheal, R. Parker, A. F. Barron, G. Norman, G. Reynolds, F. Q. Lane, H. Balderson, G. Wythes, W. F. Empson, T. Fife, M. Gleeson, A. Dean, and J. Wright.

From the gardens of Sir Weetman Pearson, Paddockhurst, Crawley, came a large oval-shaped Melon, sweet, but the flesh too soft to merit approval. Mr. Crook sent a good-looking Melon from Forde Abbey, but was also passed by the Committee.

Mr. W. Carmichael sent a dish of his seedling Strawberry Britannia, remarkable for its very dark colour and prominent achenes. Fruit somewhat small, but of good (passed).

Messrs. Kelway & Sons sent fruits and plants of the Strawberry Raspberry. They are very bright and somewhat Strawberry like, but more closely resembling those of the Arbutus, and flavourless. They are all the same ornamental, and a desire was expressed for information as to the origin of the plant.

Messrs. James Veitch & Sons sent fruiting sprays of the Raspberry Blackberry, the result of a cross between Belle de Fontenay Raspberry and an ordinary Bramble. The fruit resemble small dark Raspberries, but with a small amount of Raspberry flavour.

Mr. W. Roupell sent from Streatham perfectly ripe fruits of Mr. Gladstone Apple, also for comparison unripe fruits of Irish Peach (vote of thanks).

Early Rivers Cherries and Golden Transparent Plums were placed on the table by Mr. Rivers, and were admired for their beautiful appearance and high quality.

A splendid collection of Gooseberries was exhibited by Messrs. J. Veitch & Sons, Ltd. It will be remembered that at the last meeting the firm was represented by Gooseberry plants, but on this occasion fruits were staged with the addition of only a few cordons in fruit. The varieties actually numbered 106, and it is needless to say that very few known sorts were omitted. There were numbers and there was quality, each variety being shown in the very best form. Amongst so much excellence it is somewhat invidious to select, but we may specially note Langley Gage, Langley Beauty, Mitre, Railway, Dan's Mistake, Forester, Industry, Lord Derby, Napoleon le Grand, High Sheriff, Stockwell, Fearless, Coiner, Legerdemain, King of Trumps, Matchless, Delvine, Green Laurel, Eagle, Yellowsmith, and Early Sulphur. In addition to the Gooseberries Messrs. J. Veitch sent twenty-five varieties of Red, White, and Black Currants, of which the finest varieties were La Versailles, La Constante, and Warner's Grape. Red; White Dutch, Cut-leaved, White Transparent, and White Grape, White; and Black Naples, Lee's Prolific, and Black Grape. Cherries comprised Emperor Francis, Géant de Heidefinger, Bigarreau Napoleon, and Florence. The same firm sent Apples Mr. Gladstone, Red Astrachan, Irish Peach, Early Julian, Early Harvest, and Oslin; while of Pears there were Doyenné d'Été, Jargonelle, and Citron des Carmes. Mr. G. Kelf, gardener to Mrs. Abbott, Regent's Park, exhibited a most creditable collection of fruit, including Plums in pots, Peaches Royal George; Grapes Muscat of Alexandria, Madresfield Court, Black Hamburg, and Buckland Sweetwater, with Melons and Plums in dishes.

Messrs. Harrison & Sons, Leicester, sent a large collection of Broad Beans in about twenty varieties. Messrs. Kelway & Son, Langport, exhibited the Strawberry Raspberry. Messrs. T. Rivers & Son, Sawbridgeworth, sent a fine basket of Early Rivers Nectarine, Golden Transparent Gage, Grand Duke Plums, and a choice collection of Cherries of enormous size and exquisite appearance, the varieties Emperor Francis and Géant de Heidefinger being especially fine. Mr. J. Miller, gardener to Lord Foley, Esher, exhibited a collection of fruit, comprising Melons, Peaches, Apricots, Cherries, Plums, and Gooseberries.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with Messrs. J. Fraser, O. Thomas, H. B. May, C. T. Drucry, R. Dean, G. Stevens, W. Howe, J. F. McLeod, C. J. Salter, C. E. Pearson, J. Walker, C. E. Shea, H. Turner, and J. Fraser (Kew).

Mr. Owen Thomas, gardener to her Majesty the Queen, Windsor, exhibited a very fine collection of Nepenthes, including *N. mixta*, *N. Mastersiana*, *N. Hookeana*, *N. Dicksoniana*, *N. intermedia*, and *N. Curtisi*, with ornamental foliage and a groundwork of Maidenhair Fern and Asparagus trails. A very attractive exhibit. Messrs. Jas. Veitch & Sons, Chelsea, staged baskets of *Cornus macrophylla*; *Eucryphia pinnatifolia*, a shrub with white flowers almost identical with a *Hypericum*; also *Coprosma acerosa* and *Pavia macrostachys*, a very beautiful flowering shrub. The same firm also staged six vases of Carnation George Maquay, an excellent white; the flowers were weather-beaten, but it is certainly very floriferous and pure in colour.

Mr. S. Mortimer, Rowledge, Farnham, exhibited a very good display of Dahlias, consisting of the Cactus and Show types. In the former section Charles Woodbridge, Night, Britannia, Arachne, Starfish, and Miss A. Nightingale were well shown, while in the latter section Colonist, Wm. Rawlings, Mrs. Morgan, John Hickling, John Walker, Rebecca, and

Frank Pearce were very good, considering the early period of the year. Mr. J. Walker, Thame, also had a representative display of Dahlias, comprising Cactus, Show, Fancy and Pompon varieties. The Cactus forms were very good. Excellent flowers were staged of Britannia, Keynes' White, Starfish, Mary Service, Capstan, Harry Stredwick, Arachne, and Alfred Vasey. The best blooms in the Show types were Willie Garrett, Golden Gem, R. T. Rawlings, S. Mortimer, Goldsmith, and J. T. West. Messrs. Webb & Brand, Saffron Walden, had a very good display of Hollyhock blooms, which represented a wide variation in colouring. The varieties Sunset, Waverley, Rose Queen, and Amaranth were fine.

Mr. M. Prichard, Christchurch, had an attractive exhibit of hardy flowers, composed of Montbretias, Gypsophila paniculata, Delphiniums, Helenium grandicephalum striatum, Clematis coccinea, Gladioli, Phloxes, Geums, with a large variety of other plants. Messrs. W. Cutbush and Son, Highgate, staged Sweet Peas in variety, border Carnations, such as La Villette, Lorna Doone, Yuletide, Miss Minnie Clark, Santiago, and Cardinal Wolsey, with a collection of hardy flowers. Messrs. Kelway and Son, Langport, brought one of their well-known displays of Gladioli, very fine spikes of the following varieties were staged:—Lady Macfarren, Albino, Lady Derby, Dodo, Millais, Jerome, Auber, Mrs. Foster, Sir M. C. Seymour, Orme, Duke of York, and Acallo; also hardy flowers such as Gaillardias, Eryngium dichotomum, and Rudbeckias.

Messrs. R. Wallace & Co., Colchester, presented a very interesting collection of Lilliums. The chief forms were *L. auratum* Wittei, *L. a. rubro-vittatum*, *L. longiflorum* giganteum, and *L. Batemannae*; Gladioli Sandersi (a very distinct species), Montbretias, Sternbergia macrantha, and border Carnations in variety. Mr. Allan, gardener to Lord Hillingdon, Uxbridge, exhibited a collection of Carnations, comprising some very good yellow ground varieties. Mr. Garrett, gardener to A. B. Freeman Mitford, Esq., Moreton-in-the-Marsh, exhibited two large pans of Water Lilies, with beautiful foliage as well as flowers. *Nymphaea flammea*, *N. lucida*, *N. gloriosa*, *N. ignea*, and *N. Marliacea chromatella*, were very noteworthy. Mr. Jas. Douglas, Great Bookham, staged some fine bunches of Carnations, chiefly of the Fancy types. Miss Alice Mills, Miss Violet, Czar, Mr. Nigel, Mrs. Tremayne, Rex, Mrs. Grey Buchanan, and Cadi were very conspicuous. Mr. R. Sisley, Ockford, Godalming, staged a quantity of seedling Carnations. Mr. J. Hughes, gardener to Earl Fitzwilliam, Rotherham, exhibited a good Croton, a seedling from interruptus crossed with Weismanni; very bright in colour. Mr. Aubrey Spurling staged some very good border Carnations; J. D. Pawle, The Major, and Mrs. Geo. Calder appeared to be very good.

Mr. Owen Thomas exhibited a fine plant of *Abutilon Swatzi*, beautifully variegated, a plant likely to be useful to decorators; also a flower and foliage of *Nelumbium nuciferum speciosum*, which attracted great attention. Messrs. Wm. Paul & Son, Waltham Cross, had an extensive display of Hollyhocks from seed, showing a decided range of colours, also a fine exhibit of Phloxes; the best varieties were Le Mahdi, Lord Rayleigh, Etna, Kossuth, Oscar Beyer, Frau S. Buchner, and Evenent; also a good display of *Yucca flaccida*. Mr. H. B. May, Edmonton, staged a group of *Nephrolepis*, in twenty-four species and varieties. Mr. G. Kelf, gardener to Mrs. Abbot, Regent's Park, arranged a very large exhibit of foliage plants in first class form, comprising Palms, Crotons, Dracenas, Caladiums, Acalyphas, Ferns, Pandanus Veitchi, with Lilliums and Cannas, edged with Panicums, Isoplepis, and Marantas. Mr. Jas. Hudson, gardener to L. de Rothschild, Esq., Acton, staged a representative collection of Water Lilies. The most noteworthy forms were *N. alba rosea*, *N. gloriosa*, *N. Ellisiana*, *N. odorata*, *N. stellata*, cut from plants in the open air, the water of the tank being slightly warmed; a charming Water Lily. Mr. W. Robinson also exhibited a large tray of Water Lilies.

SHERWOOD CUP.—The collection of annuals sent by Messrs. J. Veitch & Sons in competition for the Sherwood cup was very interesting, and contained many flowers of fine quality. It is matter for regret that this firm has been the only one that has sent exhibits in this class.

FLORAL COMMITTEE MEDALS.—A silver-gilt Flora medal to Mr. Owen Thomas; silver Flora medals to Messrs. W. Paul & Son, Kelway and Son, and Lee Mitford; silver-gilt Banksian medals to Messrs. Kelf and H. B. May; silver Banksian medals to Messrs. J. Hudson, J. Walker, G. Wythes, S. Mortimer, M. Prichard, and R. Wallace & Co.; bronze Flora medals to Messrs. W. Robinson and Webb & Brand; and bronze Banksian medals to Mr. J. Allan, and Messrs. W. Cutbush & Son.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, De Barri Crawshaw, H. J. Chapman, H. Ballantine, E. Hill, J. Douglas, J. Jaques, E. Ashworth, W. Cobb, H. M. Pollett, and J. G. Fowler.

As has been said, Orchids were by no means numerous, only three or four exhibitors being represented. Messrs. H. Low & Co., Bush Hill Park, sent a few plants, and G. W. Law Schofield, Esq., New Hall, Hey, Manchester, showed *Odontoglossum crispum* Lehmanni, Schofield's variety. It is a charming form of much promise. Mr. E. Zollinger Jenny, Zurich, exhibited *Vanda Sanderana rosea*, and Captain Julian, Plymouth, showed a form of *Cattleya Warszewiczii*. Mr. C. J. Salter, gardener to J. B. Haywood, Esq., Woodhatch Lodge, Reigate, exhibited a fine spike of *Vanda Batemanniana*, and Mr. J. Douglas Great Bookham, *Dendrobium formosum*, Edenside variety.

CERTIFICATES AND AWARDS OF MERIT.

Carnation Nox (J. Douglas).—A dark blackish crimson variety with fine petals. It is very fragrant (award of merit).

Chrysanthemum Mdle. Marie Masse (C. J. Salter).—A fine summer flowering variety. The colour is rose, shaded with yellow (award of merit).

Cypripedium Olivia (H. Low & Co.).—A chastely beautiful *Cypripedium*. The prevailing colour is cream suffused with purplish rose, the petals being occasionally spotted with brown. The pouch is as if it had been varnished (award of merit).

Furcraea Sanderiana (F. Sander & Co.).—A handsome plant with broad leaves, having green edges and a white central band. It should become popular for decorative purposes (first-class certificate).

Gladiolus Baron J. Hulot (M. Prichard).—The colour of this is violet with deeper shadings. The flower is small (award of merit).

Gladiolus W. B. Child (Kelway & Son).—A large purplish crimson variety of the best quality (award of merit).

Gladiolus Lemoinei Vesuvius (M. Prichard).—A grand variety. The colour of the upper portion of the flower is scarlet, the lower part being velvety crimson (award of merit).

Nelumbium nuciferum speciosum (O. Thomas).—This is a superb aquatic with immense creamy white flowers. These are fully 7 inches, and 3 inches in depth. The centre is flat and green, surrounded by yellow anthers (first-class certificate).

Nymphaea ignea (Lee Mitford).—The colour of this is a most intense crimson (award of merit).

Odontoglossum crispum Lehmanni Schofield's variety (J. Shill).—A very charming little Orchid. The petals are pure white, as are the sepals save for maroon spots and suffusions. The broad lip has a band of white round the maroon patch (award of merit).

Sobralia Sanderiana (H. Ballantine).—This is a fine *Sobralia* of very marked colour. The sepals and petals are purplish rose, while the fimbriated lip is dull claret. The throat is bright yellow (award of merit).

PACKING FLOWERS.

IN dealing with this subject at length the first matter to be considered is the train by which the flowers shall travel, or the post by which they shall be despatched, so that they will arrive at the appointed time with as little delay in transit as possible. The shorter the time they are on the journey the fresher the flowers when they are unpacked. A day, or even a few hours, is a great consideration during hot dry weather, and would alter to a large extent all other arrangements, both as regards the condition of the blooms and the time they are cut. It must be remembered that flowers expand even when packed in boxes or other contrivances just in proportion as the weather is hot, or the reverse. In this, as in many other matters connected with gardening, it is difficult to lay down hard-and-fast rules, as many diverse circumstances have to be considered.

WHEN TO CUT THE FLOWERS.

Perhaps the most difficult matter to be taken into consideration is the time to cut the flowers so that they arrive in the best condition the following day. At first sight it might be naturally thought that the nearer the packing time the better and the more certain the flowers would be to last. This is a great mistake, and one that is too generally practised, as I have proved and hope to clearly demonstrate for the benefit of others. In nearly every instance they should be cut three or four hours before they are packed. Such flowers as double and semi-double *Pelargoniums* can be cut just before packing, but not so with Roses and many other flowers.

All flowers that expand rapidly (take Roses as an example) should be gathered in the morning while the dew is upon them, for if exposed to the sun during the day hundreds that would be suitable for packing would be too fully developed. Roses should be gathered in a bud state, their leaves and stems immersed in water, and then stood in a cool shed; others not sufficiently developed may be gathered at dinner time and treated similarly. It is surprising how well they travel and how fresh they arrive when packed in a suitable manner after their stems have been in water for a few hours. If *Adiantum cuneatum* is cut from the plants and placed at once into the packing boxes—however well it may be grown for the purpose—it will wither directly it is removed; but this will not be its condition if steeped for a few hours in a bucket of water prior to packing. It should be subjected to the same treatment, if only for a short time, directly it arrives, and it is surprising how long it will retain a beautifully fresh appearance.

BOXES AND PACKING MATERIAL.

Hampers or baskets are objectionable in which to pack flowers for travelling a long distance, for the contents are too much exposed to the drying influences of the atmosphere. I have used them, however, with marked success by placing a layer of Rhubarb leaves, Spinach, or other suitable material of a similar nature at the base, then lining the sides in the same way as the process of filling proceeds. The leaves used should be well damped or dipped in water, a few damp leaves being laid between the layers of flowers and also over them. This method is good for short journeys, and may be practised for longer ones if no better packing cases exist for the purpose.

The best system of all is to pack the flowers in tin boxes, made to fit inside a larger box; the lid can either be at the top or at the front. Tin boxes are always cool and retain any moisture that falls from the leaves and stems, which would be absorbed if wood is used. The carriage, however, must be considered, and for economy, in this matter tin is objectionable, for it is considerably heavier than light boxes made of wood. Although I had suitable tins for this and other purposes they were only used for a short period of the year, when fruit as well as flowers are sent in the same large box. Light boxes were made 4 inches deep; the length and width can be arranged to suit the box in which they have to be packed, but the one must fit closely on the top of the other. Lids therefore are

not needed except in the case of the top box, which should be provided with one, especially if the lid of the box in which they are packed opens at the top. This allows of a strip of wood or anything else being placed between the two lids, so that no movement of the boxes can take place. When the boxes are slipped in from the front no lid is needed as long as they are made to fit exactly, a few leaves when hampers are used over the flowers of the top box being ample.

In packing the flowers the use of cotton wool, moss, or Spinaeh leaves cannot be too strongly condemned; these materials only take up room and waste valuable time in preparation and packing. Cotton wool is one of the worst materials that can be used, for it extracts the moisture from the flowers, and thus assists in their destruction. It may be suggested that it can be used in a moist state and laid amongst the stems of the flowers, and that moss or Spinaeh can be employed in a similar way. In many localities moss cannot be had, and in the case of the other two it is a needless expense. If the flowers are prepared as pointed out there is no need for any packing material about their stems, if laid carefully and closely together and the boxes filled.

PACKING CHOICE FLOWERS

Cotton wool or any other material is not needed in the case of Orchids, Camellias, Gloxinias, Allamandas, Dipladenias, Eucharis, Lilies of sorts, and other flowers of a like choice and delicate nature that are easily bruised, and amongst the most difficult to pack to insure their arriving fresh and in good condition. Camellias are best packed in shallow boxes, with only a double sheet of tissue paper over the bottom; they can either be tacked to the bottom of the box with small nails, or, what is more convenient, bore two holes nearly together and tie the stems to the bottom with string or thin wire; the latter is advisable, as it can be more readily fastened by twisting at the bottom. This is supposing they are cut with a portion of wood attached. Place no paper or wool over them, the lid of the box made secure being all that is necessary. If sent to any person not in the habit of receiving them packed in this manner, give directions how to take them out. If cut without wood there is no alternative but to place each flower in a portion of cotton wool. One layer of flowers only in this case should be placed in shallow boxes, and every care must be taken that the box is filled with wool so that no movement can take place.

Any of the other flowers named can be packed in the ordinary trays or boxes. A single layer of these flowers only should be arranged together, and if they will not fill the boxes place a layer of flowers of a hardier nature at the base, then the Orchids—say Cattleyas—or Gloxinias above them, carefully inserting their stems amongst the flowers beneath. The latter should be laid on their side and also the spikes of Cattleyas; but if single blooms they may be arranged upright. Spikes of *Odontoglossums*, *Oneidiums*, and others can be laid flat. Over these arrange a good layer of *Adiantum cuneatum* fronds, placing their stems carefully amongst the other flowers at first until the latter are well covered, when others can be laid on to fill the box. If the boxes are nearly full of any of the delicate flowers that have been mentioned very few fronds are needed to protect any portion of them from contact with the bottom of the box that will be placed above them. It will readily be observed that cotton wool is not needed when this method of packing is properly carried out. A spray-distributor placed in a bottle of clean water should be in every shed where flowers have to be packed. As the boxes are filled a fine spray, like dew, should be blown over the surface of the flowers, and when unpacked they have a fresh appearance as if they had only just been cut.

WREATHS AND CROSSES.

Both these and buttonholes should be packed in shallow boxes according to their size. The latter must be secured to the base, the same as advised for Camellias. For the two former two strings should be fastened to the hoop or whatever forms the base, and then passed through two holes in the bottom of the box, and if tied they cannot move or any harm be done to the flowers whichever side the box is turned. Secure bouquets on the same principle, only two strips of wood should be arranged across the box for them to rest upon, or, better still, a false bottom may be made with a good sized circular hole in the centre, through which the stem can be passed. This is the best arrangement, only it is the most trouble, and the other will answer the purpose very well. The string or wire by which it is to be secured should be fastened to the formation of the bouquet before the arrangement of the flowers commences, then when made it can be hung up, flowers downwards, until ready to place in the box, or before if occasion requires. This string should be passed through the hole in the handle, and is a good assistance in drawing the handle into its proper position. When lifted out of the box all that is needed is to cut off the string level by the base of the holder. In these arrangements every flower is usually wired, and the Fern as well; therefore it is of the utmost importance to dew both thoroughly as soon as they are made, and again if thought necessary, when the lid of the box is nailed down.

Many boxes suitable for sending through the post have been introduced during recent years, but none that I have seen is exactly what is required. Some of them are admirable for a variety of purposes, but not suitable to pack flowers in that have been prepared according to the method I have pointed out. If the flowers are placed in cardboard boxes perfectly dry or nearly so, the boxes absorb too much water from the flowers. Light tin boxes are much the best, then the flowers can be placed in them thoroughly moist and dewed when full.

With care, judgment, and intelligence flowers can be packed to arrive after a long journey perfectly fresh during the hottest months of the year.—B.



WEATHER IN LONDON.—The rain which fell in the metropolis throughout the whole of Sunday was most welcome, and gardens show plainly how much it was appreciated by their occupants. The downpour appears to have been general, as we have reports from several quarters. During the latter half of the past week it was fair and warm. A little rain fell on Monday. Tuesday opened dull and closed bright. Wednesday was dull and cold.

— **HYBRID STREPTOCARPUS.**—The new hybrid *Streptocarpus*, or Cape Primrose, takes rank as a highly valuable and useful greenhouse perennial, which produces flowers freely when the plants have attained a good size. The colours are numerous, and from a mixed packet of seed plants producing white, purple, violet, red, lavender, or rosy-purple flowers are produced. Seed sown early in the year gives plants which may be grown to flower in the autumn, but the largest and best specimens are secured the second season.—E.

— **TREATMENT OF VEGETABLE MARROWS.**—As the plants are now developing rapidly and strongly it is important that the growths have a fair amount of space. It is an excellent plan to peg them down, not only to prevent the wind blowing them over, which twists and damages the foliage, but to enable them to take root in the soil, whereby a great impetus will be given to the fruit. Plenty of water in hot, dry weather, followed by liquid manure and a mulch over the roots, proves extremely serviceable in the dry, arid atmosphere of many August days.—S.

— **RHODODENDRON RETUSUM.**—Among *Rhododendrons* this species stands out conspicuously on account of its scarlet flowers, this being an unusual colour in the genus, which is remarkable for the great variety of colour shown by its species and varieties. It is a native of the high mountains of Western Java. It forms a slender growing bush with leaves 2 to 2½ inches long, dark green on the upper, and glaucous on the under surface. The under surface is glandular and sticky. The flowers are produced in loose trusses of six or eight, which resemble in shape those of the European *R. ferrugineum*. The flowers are tubular, three-quarters of an inch in length, and covered with short hairs, which are similar in colour to the corolla. When grown in pots or tubs it requires tying in well to keep it bushy. A plant is to be seen in flower in the Winter Garden at Kew.—D.

— **PEA MANSFIELD SHOW.**—In your issue of July 28th we see no mention of our Pea Mansfield Show amongst the list of awards of merit by the R.H.S. Probably the list refers to the Drill Hall exhibition only. Last year we sent you a sample of the same Pea under the name Emerald, which, through a mistake, did not reach you till late, and was not a good sample to go by. At your suggestion we have altered the name and have called it Mansfield Show. Three and a half feet is the average height of the plants, and the habit is very vigorous and sturdy. We recently exhibited a tray at our local show with fifty pods containing 500 fully developed peas.—WRIGHT BROS. [The Pea came before the Committee at the Drill Hall for confirmation of the award of merit previously granted at Chiswick. We have seen the variety growing and recognised as being amongst the best. The pods are very fine, and the flavour is excellent.]

— **FLOWER GARDENING AT HAMPTON COURT.**—Country cousins and gardeners who may treat themselves to a look over the London parks shortly—or, better still, whose employers may treat them—should make a point of seeing the remarkably pleasing and varied bedding at Hampton Court, for it should be in first-rate form during August. The new superintendent is to be congratulated on having provided much that is, for these gardens—that previously were much stereotyped—some bedding combinations that will evoke a good deal of diverse criticism, and certainly a great deal of admiration. There is only one carpet bed this year, but it is a good one, and will secure its meed of admiration from the public. That beautiful small-flowered double scarlet *Begonia*, La Fayette, forms the chief feature of one bed, and a brilliant one it promises to make. The *Begonias* are well grouped, and will be very effective. A delightful way of reaching Hampton Court from London is by steamer.—A. D.

— MESSRS. FELL & CO.'S OUTING.—The employés of Messrs. Wm. Fell & Co., nurserymen, Hexham, to the number of between seventy and eighty, were entertained by the firm to an excursion to Whitby, Yorks, on Thursday, 4th August. The party had a most enjoyable day, the weather being fine, and the time was spent in visiting the various sights in the neighbourhood, including the Abbey and Robin Hood Bay. The journey was made by the coast route, so that it passed through a very pretty part of the country.

— BISMARCK AND THE GARDENER'S CHILD.—“In the home circle,” writes a correspondent who knew him well, “Prince Bismarck was passionately fond of children, and I have seen him over and over again have a game with the little ones of his gardener, who were very familiar with him, and would not hesitate to climb upon his knee. Once, when his gardener's little girl died, the great statesman went to condole with him. He was dreadfully upset, and whilst holding the poor father's hand burst into tears, for he was very fond of the child. He kissed the little corpse and himself placed a bunch of Roses in its hand.”

— THE WEATHER AND THE CROPS.—A heavy downpour of rain, accompanied by thunder and lightning, passed over this neighbourhood (Biggleswade) on the 6th inst. The rain came down in torrents, 1.021 inch fell in about twenty minutes, making miniature watercourses on carriage drives and walks, removing several tons of gravel, and this just on the eve of harvest operations. The crops of corn are a good deal battered down, and the basement of low-lying dwellings were flooded, but most kinds of garden crops and roots will be greatly benefited by the much-needed rain.—G. R. ALLIS.

— THE WEATHER IN JULY AT HODSOCK PRIORY.—Mean temperature, 59.4°. Maximum in the screen, 78.9° on the 15th; minimum in the screen, 59.2° on the 20th. Minimum on the grass, 29° on the 20th. Number of frosts in shade none; on the grass three. Sunshine, 185 hours, or 37 per cent. of the possible duration. Rainfall, 1.61 inch; difference from average, 1.01 inch. Rain fell on seven days. Maximum fall, 1.23 inch on the 22nd. Rainfall from January 1st, 10.18 inches; difference from average, 3.76 inches. A fine month with cold nights. A very good crop of all small fruits.—J. MALLENDER, *Workshop*.

— JULY WEATHER AT DOWLAIS.—Rainfall, 1.02 inch, which fell on five days; greatest fall 0.45 on the 22nd. No rain fell from the 2nd to the 20th, inclusive (which is a very rare occurrence for this district), but on most days the sun was brilliant, accompanied by cold drying wind. Mean temperature for the month, 61.92°. Mean maximum, 81.20°; highest reading, 97° on the 9th. Mean minimum, 42.64°; lowest readings, 32° on the 3rd and 29th, 30° on the 13th, and 31° on the 30th. The wind was in the W. and S.W. on nineteen days, and in the N.W. on ten days. There was a heavy thunderstorm on the 22nd. There were three sunless days.—WM. MABBOTT, *Gwerllwyn House, Dowlais*.

— THE WEATHER LAST MONTH.—July was a dry month, with an excess of sunshine and a lower temperature than usual. The wind was in a westerly direction on seventeen days. Total rainfall, 0.97 inch, which fell on six days, and is 1.85 inch below the average for the month: the greatest daily fall was 0.50 inch on the 1st. Barometer (corrected and reduced).—Highest reading, 30.393 inches on the 10th at 9 P.M.; lowest, 29.658 inches on the 23rd at 9 A.M. Thermometers.—Highest in the shade, 78° on the 15th and 31st; lowest, 39° on the 5th. Mean of daily maxima, 71.03°; mean of daily minima, 49.74°. Mean temperature of the month, 60.38°; lowest on the grass, 36° on the 5th; highest in the sun, 137° on 16th; mean of the earth, 3 feet deep, 58.38°. Total sunshine, 203 hours 35 minutes. There were two sunless days.—W. H. DIVERS, *The Gardens, Belvoir Castle, Grantham*.

— THE CARSHALTON VEGETABLE POINT CLASS.—Having read in the last issue of the Journal the report of the recent Carshalton Flower Show, and of the point awards made to the six prize collections of vegetables, to which that novel, just, yet unusual apportionment of cash according to point value is made, I turned to my record of the number of points awarded in each of the past three years, and compared them with those of the present year. In 1895 the first collection obtained 61 marks, and the total of points for the six collections was 317. In 1896 the first prize was awarded for 57 points, and the total was only 273. That showed a material declension in quality. Last year the best collection had 59 points, the total for six being 310½, and this year the highest is 56, the lowest so far, whilst the total for the six collections is 277. Oddly enough the lowest pointed best of four years gets the largest amount of money. That was due to the relatively lower pointing of the other collections.—A. D.

— PRESENTATION TO MR. F. GEESON.—Mr. Fredk. Geeson, on his retirement from the position of gardener to the late Earl of Egmont, consequent on the changes in the establishment, has been presented with a silver-mounted stick with a suitable inscription, cigarette case and holder, together with an address from the men employed in the gardens.—F. EDWARDS.

— BELHELVIE SHOW.—Belhelvie is about eight miles from Aberdeen, and the third annual show was held on Saturday last. The entries were numerous, and many of the exhibits were of the highest order, and the competition keen. All the fruit was arranged on large tables protected with wire netting on the front, which prevented visitors from touching the specimens; hardy fruit, especially Strawberries, Gooseberries, and Currants, being remarkably fine. Excellent vegetables were staged, and all the collections were neatly arranged. In the classes for single dishes of Peas and Broad Beans the specimens were grand. Potatoes were clean, even, of medium size; while Cabbages, Onions, and Leeks were meritorious. Cut flowers were a feature. Quantities of Carnations, Roses, Dahlias, Pansies, annuals and herbaceous flowers occupying a considerable amount of space. In plants, Fuchsias, Begonias, Pelargoniums, Petunias, and Ferns were numerous and well grown. W. Harvey, Esq., Middlemuir (Mr. Douglas, gardener), was a large and successful exhibitor. The President, W. H. Lumsden, Esq., F.R.H.S., Balmedie (gardener Mr. G. W. Cummins) who takes great interest in horticulture and agriculture, contributed stove and greenhouse plants, not for competition. An industrial exhibition was held in connection with the above, and proved an attractive adjunct to the horticultural show.

— PRESENTATION TO A WELL-KNOWN SCOTTISH GARDENER.—On Saturday, July 30th, Mr. William Henderson, the able gardener at Balbirnie, Markinch, Fife, was the recipient, at the hands of the officials of the Markinch Cottage Gardening Society, of a beautiful gold keyless stop watch and albert for himself, and an elegant silver cake basket for Mrs. Henderson, bearing suitable inscriptions. This presentation was the outcome of a strong desire on the part of those connected with the Society to express their appreciation of Mr. Henderson's services during the past twenty-five years, and the extent of such disinterested assistance may be conveyed when it is known that in 1873 the takings were only some 25s.; now, however, the Society is in a sound financial position, and the expenses incurred at the last show average £200, a by no means inconsiderable sum when the village can only boast of 1500 inhabitants, with a thinly populated neighbourhood. The President of the Society, Provost Dixon, in making the presentation, remarked on Mr. Henderson's capabilities in restoring order from a heterogeneous mass of garden produce. All good wishes to the wearer being given from the chair, the Chairman closed his remarks, whereupon Mr. Henderson suitably replied, and while thanking them for their handsome and valuable gifts, which he was justly proud of, he valued their confidence and esteem a great deal more.

— A BEAUTIFUL WHITE CARNATION.—White Carnations are charming, but some of them, if not most, are lacking in the constitutional vigour that is essential for what may be termed constant garden flowers. After seeing some hundreds of plants and thousands of blooms of a variety named George Macquay in the garden of its raiser, Mr. W. Robinson, in Sussex, an opinion may be expressed that this is the finest white Carnation in existence for effect in the garden, and yielding blooms in abundance, smooth and clear, for room decoration in vases. It has been grown for five years with most, if not all, other white varieties, and not one of them could approach it in the combination of properties—hardiness, floriferousness, and the successional production of symmetrical blooms, while not a suspicion of a split pod could be seen in ten thousand of them. George Macquay as seen in long rows, the plants having never received the slightest protection, impressed one very forcibly as being a Carnation for the million, and if it does not become a standard border variety it is difficult to imagine what other characters a white Carnation should possess to entitle it to that claim. The stock is said to have passed into the hands of Messrs. James Veitch & Sons, and it is questionable if anything better in its way has been distributed from Chelsea. That of itself is no small praise, but believed to be fully merited. Let George Macquay be tried in the form of stout plants, and not “coddled,” and do not let its pristine vigour be impaired by excessive propagation. At present, judging by the stock to work from, the danger should be reduced to a minimum; its owner has certainly tested it thoroughly before allowing it to pass from his hands. The famous floral artist, Mr. Moon, was “caught” transferring blooms of it, not to canvas, but to a panel of ancient oak, and seemed to be particularly happy in the delicate operation.



LÆLIO-CATTLEYA INGRAMI GIGANTEA.

AMONGST the many bigeneric hybrid Orchids *Lælio-Cattleya Ingrami* is justly popular, for it is of great beauty. At the Drill Hall on July 26th Messrs. J. Veitch & Sons, Ltd., Chelsea, sent *L.-C. Ingrami gigantea*, which is depicted in the woodcut (fig. 20). It is a magnificent variety, and shows its flowers to the greatest advantage. All the organs are of much substance, while the form is practically perfect. The colour of the sepals and petals is purplish rose, and the superb lip is rich velvety crimson with yellow lines in the throat. From tip to tip of the petals the flower measures $7\frac{1}{4}$ inches, and its depth, measuring from the upper sepal to lip, is $7\frac{1}{2}$ inches. The petals are $2\frac{3}{4}$ broad.

CYPRIPEDIUM HYBRIDUM WATSONIANUM.

MR. J. COLES, gardener to R. H. Measures, Esq., The Woodlands, Streatham, has sent us a flower of this handsome hybrid, which resulted from a cross between *Harrisianum nigrum* and *concolor*. The substance of the petals and the dorsal sepal is remarkable, and there can be little doubt but that the flower would stand a very long time after being cut. The form of the flower is bold and striking, and the colour of the pouch a deep claret. The broad petals are pale claret with deeper veins, and the edges are very hairy. The broad dorsal sepal is purple with a suffusion of green at the base, the outer margin being almost white. The flower has the appearance of having been varnished, and is produced on a footstalk 16 inches in height.

LYCASTE AROMATICA.

As the specific name implies, this plant bears strongly scented flowers, and it is so free flowering that a few specimens in a house fill it with the rich perfume. On small plants even dozens of flowers are produced, quite hiding the foliage, and their bright golden yellow tint is very attractive. Its culture is very easy, and consists of only the usual routine of cool house Orchids generally. Being of good constitution it goes on getting stronger year after year, never failing annually to flower, and on this account may be recommended to amateurs generally.

ANGULOA UNIFLORA.

The blossoms of this species are rather variable in colour, some having the segments nearly pure white, while in others they are somewhat heavily tinged with rose, as in the variety *Turneri*. But all are very pretty, and make a pleasing change from the usual description of Orchids now in flower. The culture is not difficult, the plant liking a substantial compost of peat fibre, loam, and sphagnum moss in about equal proportions. The plants must be as strongly grown as possible during the summer after flowering, ripened by exposure to the open air, and kept on the dry side during the winter.

ONCIDIUM LONGIPES.

Though a small and not very showy species this little *Oncidium* is not without interest. The flower spikes are short, and appear in summer in the centre of the young growths. The flowers are an inch or so across, bright yellow with chestnut brown markings. Not being a vigorous plant large pots are unnecessary, and the compost may consist of equal parts of peat fibre and moss over good drainage. The principal point to be noted in its culture is not to allow the centre of the compost to become sour or close, as it will do sometimes owing to the tiny roots seeking the outside of the pot rather than the centre. To obviate this a large lump of charcoal in the centre may be allowed, and this allowing the air to enter freely has the effect of drawing the roots to it.

The plants like light, but will not stand direct sunshine, this injuring the foliage. Keep it in an intermediate temperature, or one rather higher than usually advised for *Odontoglossums*. Stage the plants so that they reap the benefit of all the air currents, and keep the temperature and atmospheric conditions as regular as possible, these small-growing kinds being easily incommoded by sudden changes. It is a native of Brazil, and was introduced about 1850.—H. R. R.

BEDDING LOBELIA.—Some of the surplus blue and white *Lobelia* plants left over after bedding may be potted into $4\frac{1}{2}$ -inch pots or placed in boxes, the flowers cut off, and bushy growth encouraged. These will winter well in a cool house or frame safe from frost. In spring divide for increasing stock.—E. S.

HARMFUL AND HARMLESS GARDEN MOTHS—24.

A WELL-TRIMMED garden lawn, kept free from weeds, does not offer much attraction to the species called grass moths, a family of the smuts, whose habit it is to fly in the sunshine, and which are generally abundant between June and September. Their preference is for fields or marshes, where the grass grows dank and long; also we find that some species are partial to woodland openings. It is not an unusual thing, however, to see stragglers about our gardens, and it is curious to observe the way in which one of these moths, conspicuous while in flight as the wings are large, can suddenly vanish from view. Settling on a stem or twig the insect clings to it, and folds the wings round the body in an almost tubular form. Perhaps by this performance it escapes the notice of birds.

Grasses and Sedges furnish food to the caterpillars of these moths, the Crambi; nor are they at all injurious, the species they chiefly attack not being of a valuable nature. Most of them are dull brown or grey when moths; a few are showy, such as *C. hameltus*, sometimes noticed in shrubberies, which has dark brown wings, barred with white and yellow. These numerous moths of small size, which fly both by day and night, doubtless furnish food to many birds, to predatory insects, and spiders.

Many gardens have their bee hives, and there is a moth of this family, which may occur amongst flowers, and is very like its brethren, yet one that is not a desirable visitor to the apiary, the food of the caterpillar being honeycomb. How the moth manages to deposit eggs without exciting the suspicion of the bees we do not know; probably the males, having no business to perform at the hives, keep away from them after they have emerged from the chrysalis. Of course it is at night the females visit the hives; during the day they hide or fly elsewhere. This species, *Galleria cerella*, has brown wings, touched with grey, and scooped out at the tips; its caterpillar is dull white, bristled and spotted; it feeds through autumn; the eggs are laid in July or August. The food is not the honey, but the wax, and to protect itself from the armed tenants of the hives the caterpillar forms long tubes of silk, which are very strong—the pressure of them is said, in fact, sometimes to kill part of the young brood. In these tubes are openings at different points, out of which the caterpillar thrusts its head, and the next two segments, which are smooth and horny, hence impervious to a bee's sting. Mr. Wood has expressed his surprise that the bees are not more on the alert against this enemy, because they could, without much difficulty, tear up the silk tunnels.

Some of the little caterpillars belonging to the *Tinea* group, like the *Tortrices*, construct an abode in which they live for shelter and security, but are even more ingenious, since they make one which is portable when they choose. Occasionally it is composed of fragments of leaves, bitten off and joined together with silk, or it may be chiefly formed of silk, a few particles of leaf being intermixed. Some of these abodes, or movable tents, are long and narrow, rather curved, resembling horns in miniature. It is no wonder that these caterpillar retreats are passed by frequently, but they do not deceive tiny parasitic foes. Small as are their dimensions, the moths of many of the *Tineæ* are showy, especially if the object on which they are at rest is illumed by the sunshine. They are remarkable for the long fringes which adorn the under wings, and the upper pair are often beautifully banded and spotted with crimson, gold, or silver.

A pretty species attached to the Birch has been called the flakelet (*Coleophora ibipennella*) from its resemblance to a snowflake; the upper wings and body are satiny white, the under pair dark grey, narrow, and pointed. The caterpillar lives in a case that is pistol-shaped and black; it is of a yellow colour with black spots. Rather a large species of its kind is *C. palliatella*, brown with lighter markings. The case of the caterpillar is generally found on Oak, and is remarkable because it is made entirely of silk, and has an inner case or lining. In form it is narrow at the mouth, and ends in a bulb. Another species, *C. currucipennella*, has received the odd popular name of "little waggoner;" the moth is brown and yellow, and the case of the caterpillar is a club in miniature, dotted over with little projections; it occurs upon various garden shrubs. After the caterpillars have vanished, traces of many belonging to this genus are evident by blotches left upon leaves.

Familiar to us are the damages done to Lilac both in town and country by the caterpillar of the confluent barred (*Gracillaria syringella*), and where the shrubs grow in a smoky atmosphere this insect not only disfigures, but seriously exhausts its food plant. The moth is greyish, mottled with dark brown; near the tip of each wing is a black spot like an eye. When first it feeds the caterpillar enters the leaf on which it was hatched, and eats the parenchymæ between the surfaces. After a short time, having grown too large to mine leaves, it selects one of suitable size and rolls this from tip to base, keeping the leaf in position by cords of silk. Twice in the year we see about gardens *G. auroguttella*, elegant in shape and gold spotted.

The caterpillar lives on Hypericums and allied plants. It has a peculiar abode, made by cutting a leaf across and turning the edges so as to form a cone.

Some of the flat bodies are not uncommon garden moths; they are thus named because the body of the insect looks as if it had been subjected to pressure; they rank among the larger species of Tineæ. The little wainscot, sometimes called the Carrot moth (*Depressaria nervosa*) has wings nearly an inch in expanse; they are shiny, of a red brown, and in the middle of each fore wing are two small white dots. We find the caterpillar on Carrot leaves in June and September; it is greenish-grey, dotted with black tubercles, and has a brown head which shows two bright spots. It rolls up the leaves by silk into

or some kindred species, is going out of bloom, we notice a little head peeping from a dried calyx, which contains the caterpillar of *Gelechia subocella*. Looking closer, we may discover this abode consists of several of these fastened together, to serve as a portable protection while the insect journeys about, eating the immature seeds. Others of this genus live in pods and capsules, or burrow along stems, but they are not particularly mischievous. The moths are remarkably agile on the wing, and even entomologists have trouble in catching them; they are often of dull colours; some species hide during the day.

Tiny, yet more brilliant, are the species of *Lithocolletis*. Most of the caterpillars spend their lives within leaves or shoots. The moths



FIG. 20.—LÆLIO-CATTLEYA INGRAMI GIGANTEA.

cylinders, which hide it from view. I do not think this species does much harm in Britain. Miss Ormerod states that the caterpillars are often seized by the small solitary wasps, or *Odyneri*, which store them as food for their own larvæ. More mischievous certainly is the Carrot blossom moth, *D. daucella*; its caterpillars appear in July and August, drawing together the heads of the plant, and feeding within this chamber on the flowers and seeds. It rather resembles the preceding species, but is less in size, and a little paler in colour. Another moth of this genus occasionally seen in gardens is the Thistle flat-body, or *D. carduella*, a small red and yellow moth. The caterpillar does not limit its operations to Thistles, but visits at times various species of *Centaurea* in gardens, eating into and damaging the heads.

Many of the Tineæ, besides the above, live while they are caterpillars secreted within flowers, or clothe themselves from them by using part of the envelope. Thus, for example, when the Marjoram,

repose on leaves in the sun, and, if disturbed, they make a skip or short flight to another leaf near at hand; the antennæ are constantly vibrating, even when they are settled. As an example, we may take the Honeysuckle species, *L. emberizæpennella*, the moth having yellowish wings ornamented with white bands and a silky fringe. During the summer it deposits eggs on wild or garden Honeysuckles, and towards the autumn the effect of the caterpillar's work is visible in the blotched, distorted leaves.

Another species, which is known as the Pear blister moth (*L. Clerchella*), has silvery white wings, with a spot of golden bronze at the tip. The caterpillar makes its tunnel between the surfaces of Pear leaves. The pretty plume moths, having wings divided and feathered, flit about our gardens in summer and autumn. One of the conspicuous species is the common white plume; its caterpillar feeds on the *Convolvulus*.—ENTOMOLOGIST.

HORTICULTURAL SHOWS.

FROME.—AUGUST 1ST.

WITHOUT actually attaining to the front rank, the Frome Bank Holiday fixture is always a success as far as exhibits are concerned, and the attendance of visitors was on this occasion most encouraging. What tends to make the show a great success are the grand banks of plants arranged, not for competition, by Mr. J. Trollope, gardener to the Marquis of Bath, Longleat, and Mr. Young, gardener to the Earl of Cork, Marston House, who occupied the ends of one extra large tent. The Palms in the Longleat group were most imposing, while Mr. Young depended largely upon the effect of a grand mass of highly coloured Crotons.

The best stove and greenhouse flowering plants were shown by Messrs. Stokes & Son, Trowbridge, and Mr. Pymm, gardener to Mrs. Gouldsmith, Trowbridge, who took the prizes as named. For fine-foliaged plants Mr. Pymm was first, and Mr. W. Strugnell, gardener to Col. Drexel, Rood Ashton, Trowbridge, second. Mr. G. Bridgeman, gardener to E. R. Trotman, Esq., Frome, was first for six fine Fuchsias; second Messrs. J. Cray & Sons, Frome. Messrs. Stokes & Son, G. Bridgeman, and Phillips, gardener to Mrs. Bailly, Frome, were most successful with Ferns; and other prizewinners with plants were Mr. G. Tucker, Trowbridge; Mr. W. Nash, gardener to the Rev. R. Gordon, Frome; and Mr. Cutter, gardener to Mrs. Le Gros, Frome.

In the cut flower classes the competition was keen. Messrs. Jarman and Co., Chard, took two first prizes for Roses, the second prizes in both instances going to Mr. G. Garraway, Bath. For choice cut flowers the prizes went to Messrs. Tucker, Stokes & Son, E. Viner, Frome; G. Pymm, and R. Morse, gardener to Captain Knatchbull, Babington. Mr. H. F. Barker, Frome, staged the best Carnations, arranged for effect; second Mr. H. A. Laverton, Frome. Messrs. Cray & Sons were first in both classes for Dahlias; Mr. Humphries, Chippenham, not showing in his best form. There were various other classes for cut flowers. The Frome Flower & Fruit Co. were easily first in the classes for a hand bouquet, ladies' spray, and buttonhole bouquets.

Fruit was shown in moderately large quantities. Mr. Strugnell and Mr. Pymm were placed equal first for a collection of six dishes, both having good Grapes, Melons, Peaches, Nectarines, and Figs. Mr. Morse was a creditable third. Mr. E. D. Bourdillon was first for excellent bunches of Black Hamburgh, and Mr. Hobby, gardener to Sir S. Ponsonby-Fane, Yeovil, a good second. Mr. J. H. Shore, Whatley, showed the best Muscats, second Mr. Hobby. Mr. Pymm was first for a Melon, and Mr. Strugnell second. The Frome Flower & Fruit Co. took a first prize for a grand dish of Sea Eagle Peaches, this also gaining the Toogood silver medal for the most noteworthy exhibit in the fruit classes. Mr. J. H. Shore was second. Very fine fruit of Pineapple gained Mr. Pymm the first prize for Nectarines, second Mr. J. H. Shore. The best collection of hardy fruit was shown by Mr. W. Strugnell, all of excellent quality: second Mr. E. Fisher.

Numerous classes were also provided for vegetables, and the competition was good. Special prizes were offered by Messrs. Sutton & Sons, Webb & Sons, Bourne & Sons, Beckington, and Garraway & Co., Clifton; and the principal prizewinners were Messrs. G. Garraway, Acland, gardener to A. G. Hayman, Esq., Frome; J. Hall, Wells; T. Harrison, Yeovil; E. D. Bourdillon, H. A. Laverton, and F. H. Hancock, Frome. Tomatoes were well shown by several growers. The first prize went to the Frome Flower & Fruit Co. for handsome fruit of Rolfe's Exhibition, second the Somerset Fruit Co. The first named were also winners with Cucumbers, second Messrs. Cray & Sons. The best collection of Potatoes was shown by Mr. E. D. Bourdillon, second Mr. H. A. Laverton.

WEST DERBY.—AUGUST 1ST.

ON Bank Holiday this beautiful Liverpool village was *en fête*, the occasion being the annual Show and athletic sports. A large marquee was erected in a field adjoining the Rectory grounds, and thanks to Mr. Arthur Rose, the respected schoolmaster and Secretary of the Show, assisted by members of an excellent Committee, the exhibits were displayed in a manner worthy of the highest commendation.

On entering the tent the visitor could not fail to be impressed with the splendid tables staged by Mr. C. A. Young, of the Floral Nurseries; and Mr. F. Roberts, of the Leyfield Nurseries. Mr. Young had a background of *Hydrangea paniculata*, then followed Phloxes and Begonias in choicest variety, a row of Sweet Peas, with blooms of his celebrated Carnations, an edging of Maidenhair Fern completing the grand exhibit. Seldom, if ever, have Liverpool people had anything approaching the superb fruit grown in the neighbourhood as that staged by Mr. Roberts, every dish being fit for exhibition. It well deserved the special certificate granted, a similar award being given to Mr. Wm. Rowlands, of the Green Lane Nurseries, for a group of Cannas and Zonal Geraniums.

A special word of praise is due to Mr. E. Bache, gardener to E. Bencke, Esq., for a group of plants arranged for effect. Mr. G. Osborne, gardener to Dr. Duffus, was a good second, and Mr. Henry Ogden third. A capital twelve herbaceous cut flowers won the prize for Mr. W. Cross, gardener to Miss Wright, Mr. Osborne following, the positions being reversed in the Rose classes, which were only moderate. In all the other cut flower classes the competition was good.

Fruit was excellent throughout, Mr. Cross having the distinction of being awarded honours for six dishes of Buckland Sweetwater and Black Hamburgh Grapes and fine Pineapple Nectarines, in each case being closely followed by Mr. E. Bache, who had weighty bunches not quite finished. Mr. Bache won with six dishes of hardy fruit, Strawberries and

Gooseberries being choice. Mr. Cross was second. Vegetables were first rate, Mr. John Rothwell winning the twelve class; the prominent ones seen being Celery, Cauliflowers, Carrots, Beet, and Onions. Mr. Osborne was a good second. The same quality was maintained in the six dishes, good Onions, Runner Beans, and Cauliflowers helping materially to win the prize for Mr. E. Bache.

The Committee is to be congratulated on the wise provision of classes in the schedule, suitable for assistant gardeners and cottagers, the response being such as to gladden the hearts of any committee. Mr. C. A. Young makes an ideal President, whilst the Rev. J. A. Coop as Hon. Treasurer enters into the good work with a zest that is highly appreciated. The weather was fortunately fine, the large crowds testifying to the popularity of the show.

LEICESTER.—AUGUST 1ST AND 2ND.

FAVoured by beautifully fine weather the annual horticultural exhibition, held under the fostering care of the Leicester Corporation, took place in the delightful grounds of Abbey Park, an extensive and well laid-out public resort, of which this advancing town is justly proud. Under the direction of the able superintendent, Mr. J. Burns, the arrangements of the show were well carried out, and the various features in interest in the grounds were seen at their best. Although the entries in many of the classes were not so numerous as in former years, the quality of the exhibits was good throughout, especially in the fruit classes.

In the plant classes the principal interest centred in the contest for the prizes offered for the most tastefully arranged groups, to occupy 150 square feet, the prizes being £10, £7, £3 10s., and £2. The premier position was well won by Mr. H. Rogers, Gipsy Lane Nurseries, Leicester. In his group a grand *Kentia* surmounted a mound forming the centre, the sides of the mound being made up of cork and moss, thinly draped with creepers; highly coloured Crotons and graceful foliaged plants springing up between other mounds of smaller dimensions formed the corners of the group, these being centred with elegant and well grown Palms, such as *Cocos Weddelliana*, draped and lightly arranged with *Liliums*, Ferns, and Grasses. A groundwork of moss with dainty looking creepers trailing over it here and there; richly coloured Crotons, and choice flowering plants thinly disposed completed the arrangement, displayed both the cultural skill and artistic taste of the exhibitor. Mr. H. Blakeway, gardener to P. Muntz, Esq., Rugby, won the second prize with an excellent arrangement. A fine spreading Bamboo on a raised mound formed the centre, moss being here also used as groundwork, Palms and *Dracenas* as "dot" plants, with flowering plants springing from their base.

The last named exhibitor came to the front for six stove and greenhouse plants (three flowering and three foliage). The superiority of this exhibitor's flowering plants placed him ahead of his rival, Mr. Rogers, who was strong in Palms, but lost on his flowering plants. For six exotic Ferns, Mr. Blakeway was again first, being closely followed by Mr. Rogers. Mr. J. Wright, Granby Street, Leicester, won for six single tuberous rooted Begonias. A beautiful half dozen *Coleus* were staged by Mr. Rogers, which were deservedly awarded first honours, Mr. G. Perkins, Burstall Lane, Leicester, being placed second. Mr. Rogers was again successful with four Fuchsias in dissimilar varieties, staging well grown and profusely flowered specimens. The same exhibitor also won for six table plants and a double Zonal Pelargonium, Mr. Wright being first for six singles. The first prize offered for the best plant in bloom was won by Mr. J. G. Harrison, Belgrave, Leicester, with a well flowered *Stephanotis*.

CUT FLOWERS.

Roses were not shown in large numbers, but the winning stands were fine, and contained many blooms of exceptional merit. In the open class for thirty-six singles, Messrs. Harkness & Sons, Bedale, scored an easy victory with the finest stand of blooms in the show. A grand bloom of *Her Majesty* being selected as the best Rose in the show. For twenty-four blooms, the same firm secured the coveted award, being followed by Mr. G. Green, Colchester, and Mr. R. Bonnett, Bedford. The prizes offered for twelve Teas brought out a better competition, but Harkness and Sons scored also in this class, Messrs. J. Cocker & Sons, Aberdeen, being second, and Mr. Bonnett third. In the Carnation and Picotee classes, Messrs. Thomson & Co., Sparkhill, Birmingham, were the most successful exhibitors; but in each of the two classes for single blooms, Mr. J. F. Smith, Birmingham, won the first prize. Mr. E. C. Carnell, Leicester, and Messrs. Thomson & Co. were the most successful exhibitors of bouquets, sprays, and baskets of cut flowers. Messrs. J. Cocker and Sons, Aberdeen, scored a great win in the class for a collection of hardy herbaceous flowers to occupy a space of 15 feet by 5. Their blooms were all of wonderful size, and pure and brilliant in colour.

FRUIT AND VEGETABLES.

For a collection composed of eight distinct dishes, three varieties of Grapes being allowed (two bunches of each), one Pine and one Melon only, four prizes were offered—viz., 125s., 75s., 35s., and 10s., but strangely enough only two competitors entered the field, these, however, were "old hands," and staged exhibits of superb quality. The premier position was well won by Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby; he showed Muscat, Muscat Hamburgh, and Black Hamburgh Grapes in fine condition; a beautiful well-ripened Queen Pine, a superb Countess Melon, good Royal George Peaches, Pincapple Nectarines, and a grand dish of Lady Sudeley Apple. Mr. A. McCulloch, Newstead Abbey Gardens, was a good second, but his collection was weakened by the absence of a Pine. His Grapes, however, were wonderfully fine and well finished, especially the

beautiful pair of bunches of Madresfield Court. Peaches and Nectarines were also good in this collection.

The same two exhibitors were the only ones who competed for the Veitch Memorial medal and £5, which was offered as the first prize for the best collection of fruit in eight distinct kinds, including two varieties of Grapes, but excluding Pines. In this important class Mr. Goodacre also proved the victor. He showed fine Muscat, Alnwick Seedling, and Muscat Hamburg Grapes, splendid Noblesse Peaches, and Lady Sudeley Apples, good Figs, Nectarines, and Plums. This collection throughout was an exceedingly good one, and well worthy of the distinction of winning a Veitch Memorial medal. Mr. McCulloch also staged well in this class, but he had evidently not grasped the difference between "distinct kinds" and "distinct varieties," as he staged two dishes of Nectarines and two dishes of Peaches. His exhibit, according to the wording of the schedule, was therefore bound to be disqualified, but an extra prize was deservedly awarded.

For a collection of four varieties of Grapes, Mr. McCulloch won well; he staged grand examples of Madresfield Court and Gros Marce perfectly coloured and carrying a dense bloom; Muscat and Muscat Hamburg, in good form, completed the collection. Mr. Goodacre followed closely with Alnwick Seedling (grand), Muscat, Muscat Hamburg, and Black Hamburg. Although this collection was good the first prize stand excelled it in size and dense unblemished bloom. Mr. Goodacre secured first honours for two bunches of Black Hamburg and also for a like number of Muscats. Mr. McCulloch won for two bunches of white other than Muscat, and also with two black other than Hamburg, with Madresfield Court. The principal prizewinners in the single dish classes were Messrs. Goodacre, Blakeway, McCulloch, and Brewin.

Vegetables were fairly well shown, though the prizes offered were by no means large. The two principal classes were those for a collection of twelve distinct varieties, and for six varieties of Potatoes. The first prize in each was won by Mr. R. Shaw.

NON-COMPETING EXHIBITS.

Messrs. Cutbush & Sons of Highgate staged a grand group of pot plants and cut flowers, in which a fine plant of the new *Acalypha Sanderi* was a beautiful and conspicuous object. Mr. Goodacre showed a bright group of well grown *Malmaison* Carnations, Mr. H. Deveril of Banbury an excellent exhibition of hardy cut flowers, and Messrs. W. & J. Birkenhead a fine collection of Ferns.

ACOCK'S GREEN.—JULY 2ND AND 3RD.

THE eighth annual show and fête of the above Society excelled its predecessors both in the number of entries and the quality of the exhibits, especially in the leading classes, whilst the arrangements reflected much credit on the energetic Secretary, Mr. Walter B. Child, and the Committee.

As usual, the numerous groups of plants arranged for effect were superb; and here Mr. J. B. Macdonald, gardener to G. H. Kenrick, Esq., Edgbaston, was first with a group arranged in a space of 18 feet by 9 feet, half moon shape. Several tall Bamboo-like *Coccos formosa* formed the central portion of the background, supported on either side by other elegant Palms and Humeas; whilst a narrow band of drooping slender-leaved, yellow-coloured Crotons, fronted with a similar arrangement of the orange-scarlet flowered and dark green-foliaged *Fuchsia triphylla*, supplemented by a rich profusion of dwarf *Ixoras*, completed the arrangement. The second prize was accorded to Mr. A. Cryer, gardener to J. A. Kenrick, Esq., also of Edgbaston, for a very good and artistic arrangement. Mr. Lewis Fewkes, gardener to T. Clayton, Esq., West Bromwich, secured the third prize with a capital exhibit.

The latter exhibitor was placed first for six stove and greenhouse plants in highly creditable condition; the second prize falling to Mr. J. B. Macdonald. Exotic Ferns were well shown by Mr. Fewkes and Mr. Macdonald, the prizes being accorded in the order named. Zonal Pelargoniums made an attractive display. The first prize was given to Mr. J. Freeman, gardener to Zaccheus Walker, Esq. (the President of the Society), and the second prize to R. Llewellyn, Esq. Begonias were very well shown by several exhibitors, as also were Gloxinias.

Cut flowers formed an important and imposing feature, the chief interest being invested in the collections of herbaceous perennials. In the open class for twenty-four bunches there were three exhibits, and in the opinion of the Judges so good were they that first prizes were awarded to the respective exhibitors, Messrs. W. B. Child, Freeman, and T. B. Grove, Erdington. In the local open class these flowers were also exceedingly well shown. Roses, though not a strong feature, were well shown by Messrs. Perkins & Sons, Coventry; Mr. E. Perks, Solihull; and Mr. John Smith, Hall Green. For twelve bunches of annuals Messrs. E. Stukeley (Acocks Green), and W. B. Child were the only two exhibitors. Sweet Peas, as might be expected, proved to be another feature, the first and second prizes being awarded to Mr. E. Stukeley and Mr. W. E. Perks as in order named.

Violas were well represented, principally by Councillor Waters and Mr. W. B. Child. It may here be remarked that, as in the case of the Violas in question, it is to be deplored that a large proportion of the cut flowers in the show were unnamed, and the same remark applies to vegetables especially. Carnations and Picotees were well shown by H. E. Owen, Esq., King's Heath, and Mr. J. B. Macdonald.

Forced fruit was not extensively shown. The black Grapes, though large in berry, were not well finished. The white Grapes, however, were very good, and for two bunches of fine Muscat of Alexandria Mr. J. May, gardener to E. Edmonson, Esq., Springfield Hall, secured the first prize; the second going to Mr. H. Dix, gardener to A. Lovekin, Esq.,

for two good bunches of Buckland Sweetwater. Hardy fruits, such as Gooseberries, Currants, and Raspberries, were finely shown, as also were vegetables in large quantity in competition for the prizes offered by Messrs. Webb & Sons, Wordsley, Messrs. Thomson & Co., Birmingham, and Mr. Robert Sydenham, Birmingham. There was an extensive exhibition of vegetables and hardy fruits in the cottagers' classes.

First-class certificates of merit and silver medals were awarded to Messrs. Kelway & Son, Langport, for a fine collection of Gladioli; to Messrs. Hewitt & Co., Solihull, for Begonias, herbaceous perennials, cut flowers, and floral designs; to Messrs. Thomson & Co., Birmingham, for plants and cut flowers; to Messrs. Webb & Sons for a collection of Gloxinias, including their new seedling Stanley; to Mr. George Yates, Birmingham, for hardy annuals; and to Mr. G. Andrews for floral designs. Mr. W. B. Child was also awarded similar honours for a fine collection of hardy herbaceous cut flowers.

BRIDGWATER.—AUGUST 4TH.

EACH exhibition of this Society has been a marked improvement on its predecessors, and if only they were better patronised by the inhabitants of Bridgwater and district, to the extent of justifying the Committee in offering more valuable prizes, a high position would be quickly gained. Mr. Brian Norris is the Honorary Secretary, and both he and the influential Committee do their utmost to make the annual shows popular with exhibitors, judges, and visitors alike.

The premier class for six fine-foliaged and six flowering plants, attracted three competitors, Mr. J. Cypher winning the first prize with noble specimens of *Kentias Forsteriana* and *australis*, *Latania borbonica*, large highly coloured Crotons *Flambeau*, *Chelsoni*, and *angustifolium*, and well flowered plants of *Phoenocoma prolifera* Barnesi, *Stephanotis floribunda*, *Ixora Williamsi* and *amabilis*, *Statice intermedia*, and *Erica Austiniana*. The second prize went to H. S. Baily, Esq., Glastonbury, who made a creditable display, and the third to E. W. Hill, Esq., Bridgwater. No gardeners' names were given on any of the prize cards, and the Secretary will do well in the future to remedy this oversight. The best twelve Ferns were shown by H. S. Baily, Esq.; G. Lovibond, Esq., Bridgwater, was a good second, and E. W. Hill, Esq., a close third. The best four Ferns were shown by R. Y. Foley, Esq., Bridgwater. The first prize for a single specimen Fern was well won by H. S. Baily, Esq., with a specimen of *Dicksonia antarctica*; second, Messrs. Hayward Brothers, Bridgwater. For four Fuchsias Mr. R. Y. Foley was first. Zonal Pelargoniums were admirably shown by Messrs. H. Corder, Bridgwater, H. St. B. Goldsmith, Bridgwater, and E. W. Hill; Begonias by Messrs. G. Lovibond, W. H. Kitch, Bridgwater, and T. Knapman, Exeter; Petunias by Mr. W. J. Paine, Wembdon, and Captain Whitting, Burnham; and hanging plants by Messrs. R. Y. Foley and H. Corder, who took the prizes in the order named. For a new or rare plant Mr. J. Cypher was first, showing a well-flowered *Acalypha Sanderi*—a novelty likely to become very popular.

There were no less than seven competitors in the class for a group of plants arranged for effect, and their exhibits occupied the sides of one long tent. Messrs. Hayward Brothers had a tasteful arrangement, which comprised a working fountain and water well stocked with goldfish. T. Forster-Barham, Esq., Bridgwater, was a creditable second; H. S. Baily, Esq., third; Mr. Henry Corder fourth; and H. St. B. Goldsmith, Esq., fifth. Amateurs not employing a regular gardener also exhibited various plants creditably.

Cut flowers are invariably numerous and good at all the West of England shows, including Bridgwater. Mr. A. A. Walters, Bath, was first for a fine display of herbaceous perennials, the second prize going to Mr. H. Corder, and the third to Messrs. Jarman & Co., Chard. For twelve bunches Mr. A. A. Walters was first, Messrs. Jarman & Co. second, and Mr. T. F. Barham third. Roses were shown in better condition and greater numbers than was anticipated. For twenty-four varieties, distinct, Mr. A. A. Walters was first; Mr. T. Hobbs, Bristol, second; and Messrs. Jarman & Co. third. For twelve varieties Messrs. Jarman & Co. were first, and Mr. A. A. Walters second. Rev. D. Pring, Taunton, showed the finest tuberous Begonias; second Messrs. Jarman & Co. Mr. G. Humphries, Chippenham, exhibited good Dahlias, and was first for both Faney and Cactus varieties, Messrs. Jarman & Co. taking the second prize in both instances. Mr. W. Smith, Kingswood, had the best stand of Carnations and Picotees; second, Messrs. Jarman and Co. Asters, Stocks, Sweet Peas, Zinnias, and collections of Asters were seen in good condition considering the season.

Fruit was somewhat scarce, some of the classes being none too well filled. The best collection of six dishes was shown by F. J. C. Parsons, Esq., who had good Black Hamburg and Muscat of Alexandria Grapes, Royal Favourite Melon, Dymond Peach, Moorpark Apricot, and Early Favourite Plum. Second, W. A. Sandford, Esq., Minehead. The last named was first for black Grapes, showing perfect bunches of Black Hamburg; second, F. J. C. Parsons, Esq. The few Melons staged were all of excellent quality. H. E. Strange, Esq., Bridgwater, was first for a fine unnamed fruit, second the Rev. F. Nursey, Sparton. The best Peaches, very fine fruit of Sea Eagle, were shown by the Flower and Fruit Co., Frome, second Messrs. Hayward Bros. Cherries, Apples, Currants, and Gooseberries were shown in good condition by numerous exhibitors.

Vegetables, as shown by professional gardeners, amateurs, and cottagers, were very good, especially seeing what a trying season all have had to contend with. For a collection Mr. G. Garraway, Bath, was first, Mr. J. Hall, Wells, second, and Mr. Sanford third. A handsome dish of Rolfe's Exhibition gained the Frome Flower & Fruit Co. the first

prize for Tomatoes, second Mr. J. Hall. The best Cucumbers were shown by Mr. G. Garraway, second Mr. Parsons. For four varieties of Potatoes Mr. E. W. Hill was first and Mr. Garraway second. Various other vegetables were well represented.

THE MIDLAND CARNATION.—AUGUST 5TH AND 6TH.

THE eighth annual show of the Midland Carnation and Picotee Society was held in the Exhibition Hall, in the Botanical Gardens, Edgbaston. The show was pronounced to be one of the best yet held by the Society, and not inferior to the one recently seen at the Crystal Palace in quality, the latter having had a few additional and larger classes. The *tout ensemble* of the exhibits produced a splendid effect, which was further heightened by the climbing plants in flower covering the roof of the hall. There was a large attendance of visitors on the first day, despite showery weather; but, unfortunately, the almost incessant downpour of rain during the afternoon of the second day prevented a good attendance.

Much interest was centred in the competition for the Midland Counties challenge cup, open to the trade, the competition in which Mr. Robert Sydenham having last year won the previous cup outright, promised not to compete, was worthily secured by Messrs. Thomson & Co., Birmingham, with 113 points; whilst Mr. R. Brown, Handsworth, was second with 68 points. Mr. A. W. Jones, Handsworth, who won the amateurs' cup last year (and has now joined the trade), was third with 52 points. Equally interesting also was the competition for the Sydenham amateurs' challenge cup, which was almost secured by R. C. Cartwright, Esq., Selly Hill, Edgbaston. He was beaten by 14 points only by Mr. C. Blick, gardener to Martin R. Smith, Esq., Hayes, Kent, and who totalled 137 points. Great credit is due to Mr. Cartwright for his gallant effort, especially considering that he is a comparatively new grower and exhibitor, and at the recent show was awarded nearly forty of the more important prizes.

In addition to the well attended judges' lunch Mr. R. Sydenham invited several growers and others to a social reunion on the night of the first day, and after supper he presented the challenge cups to their respective winners, Messrs. Blick and Thomson & Co., when also one of the cups was utilised as a "loving cup" by the company in drinking the healths of the fortunate winners. Much credit is due to Mr. Richard Dean for the efficient arrangements of the show, and also to Mr. Herbert Smith, the Honorary Secretary, for his indefatigable attention.

There was, in addition to the exhibition proper, a grand show of miscellaneous exhibits "not for competition" to which honorary awards were made. A leading feature was the splendid collection of Begonias in pot by Mr. B. R. Davis, Yeovil. Hardy flowers were sent by Messrs. W. F. Gunn & Sons, Olton; Sweet Peas by Mr. H. Eckford; Gladioli and hardy cut flowers by Mr. J. H. White, Worcester; Begonias and other cut flowers by Messrs. Hewitt & Co., Solihull; Carnations by Mr. James Douglas, and Gladioli by Messrs. Simpson & Son, Birmingham. Mr. R. Sydenham was awarded a silver medal for exhibits in classes 1 to 8 and 11 to 17, and a bronze medal for a single bloom. Appended is a list of the principal prizewinners.

Mr. C. Blick won the first prize for the best twelve self Carnations, in which Cecilia, Etna, Midas, and Comet were unique in size and quality. Mr. R. Sydenham was a close second with grand blooms of Seagull, Little John, Exile, Mrs. Eric Hambro, Mrs. Colby Sharpin, and others. The third prize was accorded to Messrs. Thomson & Co., and the fourth to the seventh prizes to Messrs. J. Douglas, A. R. Brown, A. Chatwin, and A. J. Rowberry as named. For six selfs there were fourteen entries, the premier prize going to Mr. A. W. Jones with splendid examples of Exile, Seagull, Mrs. E. Hambro, Mrs. Colby Sharpin, Mrs. A. Campbell, and Mancunian; Mr. R. C. Cartwright was second; Mr. C. F. Thurston, Wolverhampton, third; and the fourth to the seventh prizes were awarded to Messrs. W. Bellamy, J. Edwards (Manchester), H. G. Owen, and S. A. Went.

In the class for twelve yellow ground Picotees there were seven exhibits, Mr. C. Blick proving again victorious with first honours, his collection comprising Lady Bristol, Badminton, Hesperion, Empress Eugénie, Aglaia, Hygeia, Mrs. Jordan, Busybody, Gazelle, Professor, and Voltaire. Mr. James Douglas was placed second with a beautiful stand; Mr. R. Sydenham being third; whilst Messrs. Thomson & Co., F. A. Willersley, H. Spalding, and W. Garton, jun., followed as named. For six yellow ground Picotees the premier prize was won in a close contest by Mr. R. C. Cartwright with excellent blooms of Voltaire, Golden Eagle, Mr. Nigel, Eldorado, and Countess of Jersey. Mr. A. R. Brown was second, and Mr. W. Bellamy third; whilst Messrs. H. G. Owen, G. Chaundy, Albert Chatwin, and S. A. Went followed in the order named. For six Fancy Carnations, Mr. C. Blick was to the front with Morcar, Queen Bess, Alexandra, Goldylocks, Perseus, and Hidalgo. The second honours were secured by Mr. R. Sydenham with Monarch, George Cruickshank, Perseus, Little Sam, Phœbus, and The Czar. Mr. J. Douglas was third, Mr. R. C. Cartwright fourth, Messrs. Thomson and Co. fifth, Mr. F. A. Willersley sixth, and Mr. A. Chatwin the seventh.

For twelve white ground Picotees Mr. R. Sydenham was accorded the premier position with superb examples of Favourite, Ganymede, Muriel, Miriam, Mrs. Sharp, Dolly Dimple, Little Phil, Fortrose, Lady Louise, Mrs. Oppenshaw, Ann Lord, and Jessica. The second prize went to Mr. A. R. Brown, followed by Messrs. Thomson & Co., W. Pemberton, A. Willersley, and Herbert Smith respectively. There were eighteen entries for six white ground Picotees, Mr. A. W. Jones taking the lead with superb examples, closely followed by Mr. R. C. Cartwright, the succeeding prizes being secured by Messrs. W. Bellamy, C. F. Thurstan, F. W. Goodfellow, D. Walker, and J. F. Smith.

In the class for twelve flake or bizarre Carnations there were eight competitors, and Mr. R. Sydenham led the way with grand examples of Sarah Payne, Master Fred, Gordon Lewis, Thalia, J. S. Hedderly, John Wormald, Richard Monk, Mrs. Rowan, Sportsman, Mr. Burgess, Edmund Adams, and Mrs. May. The second honours were accorded to Messrs. Thomson & Co. for Gordon Lewis, Thalia, J. S. Hedderly, Crista Galli, Master Fred, Lord Salisbury, Sportsman, J. W. Huxhall, Robert Houlgrave, G. Rowan, Mrs. May, and J. P. Sharp, with Messrs. A. R. Brown, F. A. Willersley, W. Pemberton, D. Walker, and J. Brocklebank in their respective order. For six flakes or bizzars Mr. C. F. Thurstan was placed first, Mr. F. W. Goodfellow second, and Mr. G. Faulkner third.

Single bloom Carnations.—This was a large and keenly contested class. Mr. R. Sydenham was first with scarlet bizarre Admiral Curzon; Messrs. Thomson & Co. second with Robert Houlgrave; Mr. A. Chatwin third for the same variety; and Mr. Thurstan took the fourth and fifth prizes with also the same variety. For a crimson bizarre Mr. R. Sydenham was first and third with Master Fred; Messrs. Thomson second with J. S. Hedderly; Mr. H. G. Owen fourth with J. S. Hedderly; and Messrs. Thomson fifth with Master Fred. For a pink and purple bizarre Mr. R. Sydenham was first and second with W. Skirving; Mr. C. F. Thurstan third with Sarah Payne; Mr. J. R. Brown fourth with Geo. Rudd; and Mr. G. Chaundy fifth. For a scarlet flake Messrs. Thomson & Co. were first with Sportsman; Mr. W. Pemberton second with the same variety; and Messrs. W. Pemberton, F. W. Goodfellow, and Thomson & Co. third, fourth, and fifth. For a rose flake Mr. R. Sydenham was first and fourth with Thalia; Messrs. Thomson second with the same variety; Mr. A. R. Brown third; and Mr. Thurstan fifth. For a purple flake Mr. R. Sydenham was first with Gordon Lewis; Messrs. Thomson & Co. second and fourth with the same variety; Mr. C. F. Thurstan third with George Melville; and Mr. G. Faulkner fifth.

For a single bloom heavy red-edge Picotee, Mr. R. C. Cartwright was first; Messrs. A. R. Brown and R. Sydenham second and third with Ganymede; Messrs. Thomson & Co. fourth with Brunette, and Mr. F. W. Goodfellow fifth. For a light red-edge Messrs. Thomson & Co. were first with Thos. William; Mr. A. W. Jones second with the same variety; Mr. R. Sydenham third with Mrs. Gorton; Mr. A. W. Jones fourth with the same variety, and Mr. R. Sydenham fifth with Thomas William. For a heavy purple-edge Mr. R. C. Cartwright was first with Muriel; Mr. A. W. Jones second with Mrs. Oppenshaw; Mr. R. C. Cartwright third with the same variety; Mr. H. G. Owen fourth, and Mr. R. Sydenham fifth. For a light purple-edge Mr. A. R. Brown was first with Harry Kenyon; Mr. R. Sydenham second and third with Ann Lord; Mr. R. C. Cartwright fourth with Prior of Leyton, and Mr. H. G. Owen fifth. For a heavy rose-edge Picotee Mr. A. W. Jones was first with Mrs. Payne; Mr. R. C. Cartwright second with the same variety; Mr. R. Sydenham third with Little Phil; Messrs. Thomson and Co. fourth with Lady Louise, and Mr. H. G. Owen fifth. For a heavy scarlet-edge Mr. W. Bellamy was first with Clio; Messrs. Thomson and Co. second with the same variety; Mr. R. Sydenham third with Mrs. Sharp; Mr. R. C. Cartwright fourth with the same variety, and Mr. R. Sydenham fifth. For a bright rose or scarlet-edge Messrs. R. Sydenham, W. Bellamy, A. R. Brown, R. Sydenham, and R. C. Cartwright all showed Favourite as in order named.

For singles blooms, Selfs or Fancies, Mr. C. F. Thurstan was first and second with Mrs. Eric Hambro, and Messrs. R. Sydenham, C. C. Branson, and W. Bellamy were the remaining winners with the same variety. For a yellow, buff, or terra-cotta, Mr. C. Blick was first with Benbow (premier self), Mr. R. C. Cartwright second and third with Regina, Mr. C. Blick fourth with Cecilia, and Mr. R. Sydenham fifth with Regina. For a rose, pink, or salmon self Mr. R. Sydenham was first with Exile, Mr. R. C. Cartwright second with Exile, Mr. A. R. Brown third with Royalty, Messrs. Thomson & Co. fourth with Ada, and Mr. F. W. Goodfellow fifth with Felicity. For a scarlet self Mr. C. Blick was first with Etna, Mr. R. Sydenham second with Mrs. Parkinson, Mr. D. Walker third with a seedling, Mr. R. Sydenham fourth with Grandeur, and Mr. H. W. Weguelin, Torquay, fifth with Mrs. J. Douglas. For a crimson, maroon, or any other dark self, Mr. R. Sydenham was first with Uncle Tom, Mr. C. Blick second with Sir Bevy, Mr. C. F. Thurstan third and fourth with Mancunian, and Messrs. Thomson & Co. fifth with Negress.

Premier prizes for single blooms were awarded to Mr. R. Sydenham for Gordon Lewis, to Messrs. Thomson & Co. for Master Fred, to Mr. C. Blick for Queen Bess, to Mr. A. W. Jones for Mrs. Payne, to the same exhibitor for Thomas William, to Mr. C. Blick for Benbow, and to the same exhibitor for Hygeia.

Border Carnations were well contested by several exhibitors, and made an interesting show. Carnations and Picotees in pots were very well shown by Messrs. Thomson & Co. and Mr. R. Sydenham, and attracted much attention. For a shower bouquet composed of Carnations or Picotee blooms the first prize was awarded to Captain Thewles, Kenilworth; the second to Mr. C. Blick, and the third to Messrs. Thomson & Co. For a spray of Carnations and Picotees Captain Thewles, Messrs. Thomson & Co., and Mr. C. Blick were the winners. For three buttonholes Mr. R. Sydenham, Mr. R. C. Cartwright, and Messrs. Thomson & Co. were placed as named. Table decorations were an attractive feature, though there were only three competitors, the first prize falling to Miss Monk, Plymouth, with a light and artistic arrangement of white and yellow Carnations; the second prize to Mrs. Lovatt, Newport, Salop. Miss Swinden, Edgbaston, was third. Epergnes were numerous shown.

HEDYSARUM MULTIJUGUM.

DURING the last five years this pretty Leguminous shrub has gained a fair amount of notice on account of its long flowering season. It is a native of Southern Mongolia. When allowed to grow naturally it makes a straggling bush 4 feet or more in height, but to be seen to advantage it must be pegged down to the ground; by this means dense bushes 1½ foot high are formed. The pinnate leaves are about 5 inches in length and slightly glaucous. The flowers are borne in loose racemes 10 inches in length from almost every node on the young wood. The flowers are rosy purple with a light mark at the base of the top petal. The flowering period is from May until early autumn. It is best grown from seeds, though it can be rooted both from cuttings and layers.—W. D.

[For the illustration (fig. 21) of *Hedysarum multijugum* we are indebted to the courtesy of Messrs. J. Veitch & Sons, Ltd., Chelsea.]

HYDE PARK.

THE London parks are always refreshing to those who cultivate and grow flowers all the year round. One can stroll about the walks and refresh one's ideas on modern bedding, for nowhere is such a variety of plants utilised as in London parks. In Hyde Park the bedding changes with every year, and the many plants that were considered indispensable few years ago are now in a minority. The flat patches of colouring have almost gone; here and there a bright bed of "Geraniums" is to be seen, but the majority of the beds are filled with an assortment of plants which, while giving variety, harmonise beautifully.

Instead of a bed of plants growing about a foot high, and presenting a flat surface, we have them here 3 and 4 feet in stature, not crowded or packed together, but planted so that each may be seen growing clearly from its surrounding compeers. Fuchsias in the form of pyramids are largely employed, fine plants about 3 feet high, while the carpeting of the bed or groundwork is composed of vigorous growing Violas, the combination having an excellent effect. In other cases the Fuchsias are planted in conjunction with Pentstemons and Salpiglossis, while the edges are covered with Lobelia, Alternantheras, Fuchsia Sunray, and others. Large bushes and pyramids of Heliotrope in full flower, with a groundwork of *Nicotiana affinis*, make an arrangement which is greatly admired by all visitors. *Diplacus glutinosus*, with its apricot coloured flowers, appears quite at home.

A new feature to me were the beds of *Bougainvillea glabra*, plants 4 or 5 feet high, and laden with flowers. They appear particularly happy; the flowers are almost deep enough in colour for *B. Sanderiana*. The beds containing them were made complete with *Fuchsia fulgens*, *Ivy Pelargoniums*, *Petunias*, and *Violas*. Iceland Poppies in the three colours, with white *Abutilons* as "dot" plants, were worthy of note, as was also a bed of dark red Zonal *Pelargoniums*, from which issued the tall white spikes of the Bridal Wreath plant, *Francoa ramosa*. *Violas* are largely employed here, as well as in the other parks, not only as ground coverers, but also to form beds. It is a matter of surprise that they are not grown more largely in our private gardens, as they give a continuous display of bloom throughout the season. *Salpiglossis* seedlings produce a fine quiet effect, and are to be seen here flourishing with a carpeting of *Mignonette*. Carnations are used somewhat sparingly, but the beds planted with those robust growers, *Alice Ayres* and *Raby Castle*, were very effective, the blue *Violas* acting in perfect concert with them. Seedling *Begonias* will be bright and attractive in a week or two.

Carpet bedding now occupies a minor position, and the beds are freely dotted with plants of *Carex Brummea* and its variegated form, and small Palms. The Coral plant, *Erythrina crista-galli*, was seen to advantage with a carpeting of blue *Violas*. As I have never seen this plant utilised for this purpose before it came as a most pleasing novelty. It would be out of the question to enumerate all the beautiful beds seen, but I have mentioned the most striking.

The general effect of the entire scene must not be overlooked. Here one sees a group of Norfolk Island Pines, *Araucaria excelsa*, plunged in the grass; there huge masses of Bamboos meet the eye, with Bananas in sheltered positions, while gigantic Palms wave in the breeze on all hands. The visitor will see all this by entering at the Cumberland Gate or Marble Arch, and proceeding down to the Stanhope Gate, where it will be well to cross the park to the right, which leads to the Dell, round which we walk with admiration. It would be almost impossible to conjure up such a scene in the great metropolis. No words of mine can adequately describe it. Fancy a huge enclosure, with undulating lawns, beautifully green and smooth as a carpet, rising at the back with a wealth of shrubs and ornamental foliage till the eye reaches the gigantic trees at the top. On the grass are huge Tree Ferns, Bananas, Palms, *Cordylines*, *Aloes*, *Yuccas*, and a host of other equally ornamental plants, while the long cool pool of water is edged with *Irises*, Bamboos, *Rhens* and Grasses, *Water Lilies* float on the surface, and everything tends to produce a wonderful effect. Regardless of the hundreds of eyes watching, rabbits skip about the lawn as though they were in some quiet country park, and the shy wood pigeon struts about as though it were far away in the country. It is a grand scene to look up to, but the view obtained from the top walk, looking down on the heads of the Tree Ferns in the gorge, interspersed with the dark green foliage of the ornamental trees, I think more beautiful still.

Throughout the entire park there is great evidence of the forethought

and skill displayed. Everything and everywhere is neat, trim, and tidy, the beds are always in good condition; the moment a bed gets a little past its best, it is replanted, so that everything is kept fresh, bright, and beautiful. The park throughout reflects great credit on the superintendent, Mr. W. Browne, and his numerous assistants, for everywhere the hand of care and attention is clearly visible.—J. B. R.

HAM HOUSE.

MR. CONWAY, who succeeded Mr. G. H. Sage at Ham House, Richmond, the residence of the Earl of Dysart, has some, for the season, really capital crops of Apples on his bush trees in the gardens, and he attributes his fortune to having in many cases lifted, and in others root-pruned, the trees somewhat severely, both last and the previous winters. There is no need to name varieties, as he has many of the best. When practicable each tree gets a good watering, and every one has about the



FIG. 21.—HEDYSARUM MULTIJUGUM.

roots a mulch of manure to better feed the trees and help to retain moisture. The soil at Ham is of a very loose, fine, sandy nature, quite devoid of clay, and naturally soon becomes dry. That forces the roots down into the lower strata in search of moisture, which they find, and it induces rather coarse wood growth, but does not produce buds or fruit. A drastic course of treatment is the best in such case, as feeding from the surface when roots are so remote from the food is of little use. The fine crop of Apples seen now shows how well firm dealing with erratic roots is justified.

A rather unusual spectacle in a fruit garden is a row of semi-bush Peach trees, planted in a warm aspect. They were planted a year ago last autumn, and somewhat on mounds; now the soil is thrown up round them in each case to form water bays, so that the moisture given may be fully utilised by the roots. The varieties are *Alexander*, *Hiles' Early*, and *Condor*. *Alexander* is cropping best, the fruits being of good size and colouring well. Some few years must elapse, however, ere the experiment of growing Peaches in the open here can be fully tested. So far it has been found practicable to draw the branches together and wrap mats round them at night when in bloom. That, however, would hardly be practicable when the trees were large. Of course they would bloom rather later than trees on walls, but not late enough to escape white frosts. In one of the houses there are several trees on the back wall of Humboldt Nectarine fruiting superbly and carrying a very brilliant colour. It makes one's mouth water to learn that such fruits obtain 10s. per dozen in the market. That will show they are good.

In a vinery where mixed Vines have all been inarched with Muscat of Alexandria, there is a remarkable difference between the crops produced by *Alicante* and *Lady Downe's* stocks greatly in favour of the former. Judged by the appearance of the capital bunches produced the *Alicante* must make a first-rate stock for the Muscat. A Cherry house planted with cordou-trained trees only, back and front, is not a common feature in gardens. The one at Ham House is 50 feet long, and about 12 feet wide, and is a lean-to. There are twenty-six trees (back and

front, and in each case they range from 10 to 12 feet in length. The front border is $2\frac{1}{2}$ feet wide and 2 feet deep, having several inches of drainage or rubble beneath. The soil consists of Banstead loam, lime rubbish, charcoal, and a little crushed bone. This is made pretty solid. Limited as is the root area it seems to be ample at present, as the trees make almost too strong wood growth. In a year or two it is evident this house of Cherries will be a very admirable and interesting one. The varieties include the best known ones, fourteen in all, and planted to secure a long season's succession. I have the names, but they need not now be furnished.

Outdoor Strawberries do fairly well on the very sandy soil, but some plants die off very much in the second year. Noble is grown as a yearling variety exclusively, the runners being laid direct into 5-inch pots, then when removed the old bed is destroyed, a fresh one of three rows and about 5 feet wide being planted in a sheltered place. Round this bed is fixed in the early spring boards as sides and ends, and on these lights are placed to protect the bloom and help to ripen the fruit. In that way a fine crop is obtained just before the exposed outdoor earliest are ready. A very useful arrangement. Vegetables do well, notwithstanding the porous nature of the soil. Mr. Conway speaks in warm praise of Sutton's new Pea, Early Giant. He said that he sowed it ten days later, and he gathered from it ten days earlier than he did from William the First, and such very superior pods. Asparagus is finely grown, and seems to like the sandy soil of Ham as well as it does the sand of the seashore. Plants put out in rows 3 feet apart and 2 feet apart in the rows have ample room certainly, yet so strong is the growth that not a foot too much seems to be given. Any method whereby Asparagus growth can be retarded so as to materially lengthen the season would be heartily welcomed here. There is a fine collection of hardy plants at Ham House, but there is no ordinary bedding or summer flower gardening. Nothing of that description is tolerated.—A. D.

THE YOUNG GARDENERS' DOMAIN.

DWARF POINSETTIAS.

No plants are more useful for furnishing in winter than Poinsettias, especially if they are grown dwarf. To obtain plants about a foot high, the cuttings should be inserted in small 60's about the second week in August, and the stronger the cuttings chosen, the better will be the floral bracts, that is provided the plants are managed properly.

The only difficulty, from my experience, in raising dwarf Poinsettias is to retain the foliage until the plants are fairly rooted. If the cuttings are stout and vigorous the leaves are consequently strong, and they are liable, if exposed to the sun for a short time, to fall; this will also be the case if kept in a low, dry temperature. The best plan is to plunge the pots, as soon as the cuttings are inserted, into a good bottom heat and keep them well syringed and shaded until they are rooted, when they may be shifted into 5-inch pots. It will be advisable to shade them again for a few days until they are established. When inserting cuttings it will greatly encourage the emission of roots if a layer of sand is put at the base of each.

The plants will require very careful attention in the way of watering until they are well rooted, when stimulants may be given regularly; the syringe must be used as often as the weather permits. To avoid letting the plants become drawn they must be kept as close to the glass as possible in a temperature of about 55° until the bracts show colour, when the temperature should be increased a little. The soil best suited to Poinsettias is fibrous loam and leaf mould in about equal proportions, and one-third peat with a sprinkling of silver sand. By growing Poinsettias as described last year we obtained bracts on our dwarf plants 14 and 16 inches across.—S. S.

EARLY AND LATE PEAS.

It is the aim of all good gardeners to secure crops as early and as late as possible, but perhaps a good dish of Peas from the open ground the first week in November is a record. This, however, was accomplished at Luton Hoo last season, and had the weather remained open for another fortnight several more would have been secured, the rows at that date being a mass of bloom. The variety was Autocrat, and the seeds were sown about the middle of July on an open, though not exposed piece of the kitchen garden, which is itself enclosed on all sides by a 15 feet wall. Before sowing a liberal quantity of manure was spread on the site and deeply worked in. The direction of the rows was S.W. to N.E., thus giving full scope for the action of the sun on both sides of the rows. As growth advanced the Peas were neatly staked, after which a mulching of half-decayed manure was put on both sides of the rows, and plenty of water afforded. The continued open weather at so late a period favoured growth with the result I have before mentioned.

A few points in connection with early and late Peas I should like to mention. Bearing in mind the improbability of a repetition of such a favourable autumn, no seeds should be sown later than the end of June, unless adequate means be provided for their protection. This rule certainly holds good on cold retentive soils. Also those varieties which are not susceptible to mildew ought to be chosen for late sowings, and Autocrat appears to possess this good quality to a marked degree. All our Peas are carefully handpicked before sowing, all those having the slightest puncture being discarded. By taking this precaution a good even row is secured provided the seeds are not carried away by birds or vermin.

An excellent way of growing Peas is to take out a shallow trench as

for Celery, and having covered the bottom with manure fork it in, and distribute the seed thinly and evenly along the centre, the seed occupying about 4 inches of the width of the trench. By adopting this plan each seed will be independent of its neighbour, and each plant be robust and stocky from the first. As the plants advance in growth and require earthing the spare soil on each side of the shallow trench has simply to be replaced, leaving the whole level. When water is given it will go at once down to the roots instead of running off the high ridges too often seen in gardens nowadays. My remarks apply to light soils. On wet, cold, or clayey soils the old method of making a ridge around such crops has its advantages, especially with regard to very early or late sowings.

I question whether much time is gained by autumn sowing, unless it be on very light, well-drained land. A great deal, however, depends on the variety sown. Veitch's Extra Early Selected is a grand one for the first crop. Seeds of this variety sown on November 18th, 1897, were bearing pods 2 inches long on June 1st, while a sowing of Chelsea Gem made on January 24th, 1898, and growing side by side with the first named, was just about ten days behind. Most gardeners will tell us, however, "a dish of Peas is a dish of Peas" early in June, and if a well-drained border is at command in November it is mostly the spot chosen for the first sowing of Peas.—T. P.



FRUIT FORCING.

Figs.—Early Forced Trees in Pots.—Immediately the second crop of fruit is gathered examine the trees for red spider and scale. If present, syringe the trees with a solution of soluble petroleum on the under side of the leaves, also wetting every part of each tree, and where the wood is infested with scale employ a somewhat stiff brush to dislodge it whilst wet. In bad cases repeat in a day or two, afterwards syringing thoroughly with tepid water. The trees will only need water to prevent the foliage becoming limp, ventilating to the fullest extent day and night, but protect the trees from heavy rains, which have a tendency to keep the growth active instead of securing that rest so essential for those subjected to early forcing.

Early Forced Planted-out Trees.—The second crop is ripening and will need a circulation of air constantly, more by day than at night. If dull, wet weather prevail, a gentle heat in the pipes makes all the difference between well ripened and insipid fruit. Watering at the roots must be diminished and syringing discontinued, but moderate air moisture may be maintained for the benefit of the foliage. If red spider is present and there is heat in the pipes, coat these thinly with sulphur, or a good syringing may be given after the fruits have been very closely picked, choosing a time when there is a prospect of the moisture not remaining long upon the trees. As soon as the fruits are all gathered the trees may have a good washing with the syringe or garden engine to clear the foliage of dust and red spider, otherwise a circulation of dry warm air should be maintained in the house until the foliage commences falling naturally, and which must not be accelerated by allowing the soil to become dust dry at the roots.

Succession or Late Houses.—The fruit is now advanced in swelling, and every pains must be taken to keep the foliage free from red spider. This may be effected by forcible syringing early in the afternoon, but do not syringe if there is no prospect of the foliage becoming dry before night. Under such circumstances damp the border, especially in the afternoon, and occasionally with liquid manure. Admit a little air early, increasing it with the sun heat, maintaining through the day a temperature of 80° to 85° , with free ventilation, closing early so as to run up to 90° or 95° , even 100° , and when the sun power is declining a little air may be admitted at the top so as to allow the pent-up moisture to escape, the temperature gradually cooling down. Water or liquid manure, according to circumstances, will be required once or twice a week to keep the soil thoroughly moist. When the fruit begins to ripen lessen the supply of water, and discontinue syringing, securing a circulation of air constantly, and freely ventilate when favourable, but sun heat should be husbanded, and will do no harm if the atmosphere is not confined, a little ventilation being given so as to allow of the moisture escaping instead of condensing on the fruit and causing it to crack.

Vines.—Early Houses.—The earliest forced have the wood ripe, and some of the leaves falling. Do not attempt to remove them forcibly, nor cut the laterals too close in, as that would probably cause the principal buds to start, therefore remove the laterals by degrees, and shorten some of the strong shoots, preserving, however, some growth, especially when the principal leaves are down above the buds to which the Vines are to be pruned, deferring the final pruning until the early part of September. The old soil should be removed from the surface of the border, forking some of it from amongst the roots, taking advantage of the opportunity to raise any that are deep, and laying them in fresh material nearer the surface. Good calcareous loam is the most suitable, especially from old or new red sandstone formations, with an admixture of one-twelfth of wood ashes or charred refuse, a twentieth of crushed charcoal, and a fortieth

of crushed bones. Give a moderate watering and the roots will push, especially adventitious ones, from near the collar, into the new soil at once, and the Vines be in capital condition for a start when the time of starting comes round. When lifting or renovating the border is delayed until the leaves are all down the Vines do not start so freely, the break often being unsatisfactory.

Midseason Houses.—The Grapes upon the whole have been good as regards colour and bloom, and the season has favoured size and freedom from red spider. With a good array of foliage fully exposed to light the wood is stout, short-jointed, and the leaves thick, leathery, and deep green in colour, the Grapes well nourished, and the buds plumped for next season's bearing. Copious supplies of water through a light mulching contribute to a satisfactory result. Fire heat is often necessary to ripen midseason Grapes perfectly, but with ventilation day and night to insure a circulation of air it may often be dispensed with in mild weather. The nights, however, are now getting cold, and fire heat may be necessary, though a good rest at night aids Vines wonderfully that are carrying heavy crops of Grapes. Enough fire heat should be given to maintain the temperature at 70° to 75° by day, and 60° to 65° at night, allowing 5° more for Muscats.

Late Houses.—Afford full supplies of water through a good surface mulching, continuing the supplies of nourishment until the Grapes are well advanced in colour. All late Grapes require time. They ought now to be colouring, or advanced therein, and they must have a fair amount of air moisture with a circulation of warm air constantly, in which they will attain fulness of berry and perfection of finish, diminishing the air moisture as the Grapes advance in colouring. Afford a temperature of 70° to 75° by day artificially, 80° to 90° with sun, and close sufficiently early to increase to 90° or 95°. When the sun is losing power put on enough top and bottom air to insure a circulation of the atmosphere, allowing the temperature to gradually cool, which rests the Vines, and increase the ventilation early in the morning with the advancing temperature. The hot-water pipes should, if necessary, have a little warmth in them, to prevent the night temperature falling below 65°, and prevent the deposition of moisture.

THE KITCHEN GARDEN.

Globe Artichokes.—Owing to the long spell of dry weather choice vegetables are likely to be somewhat scarce during the next few weeks, and an effort should be made, therefore, to keep plants of Globe Artichokes in a productive state as long as possible. All the older flower stems ought to be cut down, this favouring the development of later stems. If in addition to this slight attention a thorough soaking of liquid manure could be given occasionally, it ought to be possible to cut moderately large, succulent flower heads till severe frost intervenes.

Cauliflowers.—Hot weather has not suited Cauliflowers, and really good clean heads are scarce. If those commencing to form hearts were kept well supplied with liquid manure at the roots, pouring this in the furrows between the rows caused by moulding up to steady the stems, they would make good progress in spite of the heat and drought. They ought, further, to have the leaves drawn together and tied over the hearts when about half formed, this keeping them in a well blanched condition, and excluding butterflies. From the middle to the end of the month, according to the earliness or lateness of the district, is a good time to sow Cauliflower seed on borders with a view to having a good supply of plants to winter in cold frames.

Corn Salad.—Mere outside leaves of Corn Salad are of little value, but if the seed is sown now on good ground, in drills 6 inches apart, and the plants duly thinned to a distance of 6 inches, they will form excellent hearts, that will be found acceptable for mixing with other green salads during the late autumn, winter, and spring months. A successional sowing should be made early in September.

Endive.—If more seed is sown now on a warm sloping border, a number of small late plants will be available, either for standing where they are through the winter or for moving into frames, where they will become large enough to blanch in succession to those raised earlier and stored for winter use. Plants already large enough to move, and standing somewhat closely together, should be thinned out at once. If need be a portion of them may be transplanted to a fresh site, leaving the rest to attain their full size where they are.

Asparagus, or Buda Kale.—A late supply of this extremely hardy Kale not infrequently proves acceptable, the plants, if closely gathered from, producing abundance of succulent shoots in May and June. It is too late to sow in beds and transplant from these, and the best plan is to level and make fine the soil after Potatoes have been lifted, and to sow the seed in lines where the plants are to stand. Open shallow drills 20 inches apart, moisten if dry, and sow the seed thinly in these. It is not advisable to thin out the resulting plants very severely. They may be left about 1 foot apart, or even closer together.

Lettuce.—If Lettuce seed is sown now the plants obtained will, if the weather is favourable, give small hearts in the autumn. The smaller Cabbage varieties are the most reliable, and none more so than All the Year Round. At the end of the month (a little earlier in cold districts) seed of the Black-seeded Brown Cos, Hicks' Hardy Green Cos, and Hammersmith Cabbage Lettuce, should be sown in quantity with a view to having abundance of sturdy little plants to stand through the winter.

Onions.—It is yet early to twist down the necks of the plants in order to hasten maturation. Mildew is rampant among many breadths of Onions, and once established in a bed it is next to impossible to check its spread. Syringing the plants with thin lime water in which flowers of sulphur have been freely stirred is slightly deterrent, and would be more

effective if it could be made to adhere to the plants better. If there are only slight traces of mildew, remove and burn either the affected leaves or the whole of the plant at once. Seed of Tripoli and White Spanish varieties ought to be sown now, the plants resulting standing out through the winter.

THE BEE-KEEPER.

REMOVING SUPERS.

THE honey harvest is now fast drawing to a close, and with the exception of those districts in which the heather plays an important part, the supers may be removed. Care is, however, necessary in carrying out this operation, or there will be numerous sections not properly sealed over. The late rains have benefited the pastures in a marked degree, and already the second crop of white Clover is fast bursting into bloom; from this and other sources the bees will obtain sufficient honey to enable them to finish off any supers that may still remain on the hives.

As has been stated in previous notes, there is a great amount of dark honey stored this season. It is, however, on the whole of good flavour, and those bee-keepers who have gone in more largely for comb honey will have no cause to regret doing so, as a great deal of which has come under our notice has been in marketable form. The cappings were certainly not so white as usual, still they were much better than one could reasonably have expected after such a bad sample of run honey that was obtained from the same district. It shows the advantage, too, of not depending solely on run honey in an apiary.

In removing sections it is not at all necessary to go to any expense in obtaining a super cleaner. All that is necessary is a steady hand and no hurry and bustle on the part of the operator; the bees will then leave the super in whatever form it is in a very short time. If, for instance, a strong colony has a double crate of sections, or even more, on the top of the hive, all that is required is to have a few pieces of calico, slightly larger than the top of the hive saturated with carbolic acid. This should be done an hour or more previous to the time they are required; the calico will then have taken up the acid, and it will not disfigure the sections or whatever it may come in contact with.

Remove the coverings quickly from the uppermost crate, and at once cover it with the carbolic sheet. In a few seconds the bees will have beaten a retreat below. The crate of sections may then be removed, and if there is another crate underneath place a carbolic sheet on the top in like manner, and the crates of sections may be removed from several colonies in a remarkably short space of time, without a bee being injured or the brood nest being interfered with in any way.

A word of caution is necessary. On the removal of the crate of sections the carbolic should remain as a covering. Robber bees from the other hives will then not interfere with the sealed stores, which they are much inclined to do at this season, and the crate must not be placed flat on any hard substance, or the bees, which are often found adhering to the bottom, would be crushed. A couple of bricks, or the inverted roof of the hive, will answer the purpose admirably.

The sections may then be lifted out of the crate, and those that are well finished placed in a box to be afterwards cleaned and graded. We prefer doing this in the open air, as any stray bees remaining may be brushed off, when they will at once return to their hive.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

Cooper, Taber & Co., Ltd., 90, Southwark Street, London.—*Wholesale Bulb List.*

F. Cooper, 30, Manners Street, Wellington.—*Seed Guide.*

Dickson, Brown & Tait, Manchester.—*Bulbs.*

W. B. Hartland, Cork.—*Daffodils and Rare Tulips.*

J. Peed & Son, Roupell Park Nurseries, West Norwood.—*Bulbs.*

Sutton & Sons, Reading.—*Bulbs*

B. S. Williams & Son, Upper Holloway.—*Bulbs and Fruit Trees.*

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary,* Mr. G. J. Ingram, 50, Parliament Street, London, W.C.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary,* Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary,* Mr. A. F. Barron, The Royal Gardeners' Orphan Fund, Chiswick, W.



TO CORRESPONDENTS

All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Employment (C. S. H.).—Your desire is natural and laudable. It is most difficult to advise in such a case. If you could procure letters of introduction from the excellent continental firm mentioned, to British firms with whom business is done, one or other of these firms might, on personal application, with credentials, try to be helpful in the direction you wish.

Protecting Tea Roses in the East of Scotland (O. F.).—On the east coast, over 500 feet above sea level, we have found it necessary to place on a good thickness of stable litter in November to protect the roots, and in severe weather employ evergreen branches, such as Spruce, to shelter the exposed parts, fixing them securely in the ground, and so as to depend over the Roses. The Spruce branches were not removed until the Roses and ground were thoroughly thawed on a return of mild weather, the branches being kept in readiness for replacing in case of recurring severe weather, this being continued until April as required. In very severe winters the Roses were cut off down to the litter protecting line, but springing again from the roots or protected parts gave very fine growths and flowers, the plants not being injured in the least by the stable litter. In ordinary winters the Fir branches afforded sufficient protection to the tops, pruning being performed in April.

Carnations in the Open Ground (*Idem*).—The varieties you name are quite hardy under ordinary circumstances, and do well when so grown as to have sturdy "grass." It is usual, however, to keep some plants in pots in cold frames so as to make sure of them, these being layers of the current season, potted in late summer or as soon as well rooted. The layering is best done at the end of July or beginning of August, but it may still be carried on, not, however, losing any time, so as to have well rooted layers by the middle or end of September, then either potting singly in 3-inch pots, or in pairs in 4-inch pots. After potting a good watering should be given, and the frame kept close for a week or two until root action is resumed, when air may be freely admitted. All through the winter full advantage should be taken of fine weather to give all the air possible by tilting or entirely removing the lights. Water very carefully during the winter, keeping the plants rather dry than otherwise up to February, for, if wet, "spot" commonly appears, besides the plants suffer in severe weather. We advise you to treat at least a portion of the layers in that way, so as to make sure of keeping the collection intact.

Vine Bark and Soil (Cross).—1, It is not difficult to find either the white worms (*Enchytræus Buchholzi*) or the transparent beetles or spiders—namely, *Rhizoglyphus phylloxerae*, both of which feed on vegetable substances in a state of decay. There is nothing in either resembling the grubs of the Vine weevil, much less the weevils themselves. Though you cannot discover any trace of eelworm now, if you had examined the specimen you sent us last October you might have found plenty in the tissue at the collar of the Vine. If you examine the Vines that die in a similar manner you may also find eelworm. We should attribute infection to the old Cucumber soil. You cannot do better than use plenty of lime, scraping away as much of the old soil as possible and adding fresh loam mixed with bonemeal. 2, We do not think the eelworm would pass through a wall into a well, or if they did, neither them nor their eggs long survive, at least we have not found them to do so in waters not containing a large amount of organic matter. 3, Yes, you can easily find out whether eelworm or eggs exist in the water by subjecting it to microscopic examination.

Lilium auratum (W. J. B.).—The flower of *Lilium auratum* that you send represents the variety known as *cruenta*, and which is comparatively common. The number of flowers on the spike proves that your system of culture is correct, and we congratulate you on the result.

Packing Flowers (*Novice*).—We quite understand your difficulty, and know that is one that has troubled many young gardeners. We recommend to your notice the article on page 105. This is from the pen of a practical man, and embodies much information that will be of value to you.

Excluding Rabbits from a Garden (B. D. K.).—The most effectual method we have found is wire netting. We use it galvanised, 1½-inch mesh, 3 feet wide, 6 inches of which is placed in the ground in order to prevent the rabbits burrowing under it. This netting is secured to posts or iron stakes, and a top wire is stretched from post to post or stake to stake. Where feasible, a ditch should be dug on the protected side and the wire placed on the edge of the ditch. If placed on the flat take out the trench for the netting, bending the bottom edge from the line outwards, affixing it flat in the trench, so that the rabbits which commence burrowing a little distance from it will come at the wire and give up trying to get under. We also fix the netting as to lean outwards. If leaning inwards the rabbits soon learn to climb, and once in cause much trouble to get out again, as there is generally plenty of cover for them in gardens at this time of year.

Melon Plant Diseased (J. S.).—The root and stem of the Melon plant arrived in good condition for examination, also the soil. The stem above ground was perfectly healthy, but the root-stem had a swollen appearance, while the smaller roots were free from the nodosities indicative of root-knot eelworm (*Heterodera radiculicola*). We did not find this pest, but in the root-stem, embedded in the cellular tissue or between it and the woody layer, the root-stem eelworm (*Tylenchus obtusus*) was plentiful, and this we regard as the cause of "the plant failing at the root before the Melons were hardly ripe." The soil is of a very fibrous nature, and in that the eelworm has possibly been introduced. We advise the careful removal of the rootstocks and burning them, then either soak the soil with gas liquor diluted with five times the bulk of water, or soluble phenyle, one part in 240 of soft water, or scald with boiling water. We have also found great benefit from the use of quicklime, about 2½ per cent. mixed with the soil in stacking, leaving until the herbage was completely dead.

Parsley not Progressing (J. W.).—The plants are "rusted" at the roots by a small maggot, the larva of a dipterous fly, *Psila rosæ*, and the leaves are attacked by the leaf-blight fungus, *Septoria petroselinii*, to a greater extent, but both the plants appear to be recovering, as they have good centres—that is, pushing healthy leaves from the crown. We advise the removal without delay of all the leaves but the young central ones, doing this carefully, if need be with scissors, and burning the parts cut off. Then supply a dressing of kainit, crushed finely, 2 ozs. per square yard, keeping it from the hearts of the plants, following with a dressing of soot, a good handful, or even two, per square yard, all over the plants, and finally sprinkle with lime, freshly burned and slaked, so as to fall into a fine apparently dry powder, using about as much of this by bulk as of soot. The hoe may be run lightly along the sides of the rows after the dressing. We have sometimes only used the soot and lime, but the kainit acts well against the root-rust, and hardens the Parsley for the winter.

Rusty Pears (B. D. K.).—As you have neither described "the rust fungus on growing Pears," nor forwarded a specimen for examination, we are placed at a great disadvantage. Some of the so-called "rusts" are merely superficial, and may readily be reached by a fungicide; while others push the mycelial hyphæ so deeply into the flesh as to be practically beyond the influence of a substance applied externally. We have found most relief from spraying with methylated spirit, this being done very carefully in the evening of a fine day, and the finest possible film only covering the fruit. If applied excessively the spirit discolours the rind. It appears to sink somewhat into the flesh exposed by the action of the fungus, destroying the hyphæ and acting also antiseptically, facilitating the formation of fresh rind-cells. Similarly we have used freshly burned chalk lime, ground to a powder and mixed with an equal amount of flowers of sulphur, dusting on by means of a sulphur duster or muslin bag. In some cases we have rubbed the mixture on with the fingers, and found good results follow the treatment.

Packing Grapes (J. H.).—If, in answer to your question respecting the "best material to use in packing Grapes," we were to say "Nothing at all," we should not be going beyond the region of facts. If a stout, sloping, cross-handled basket is lined with sweet moss or soft wood wool, and this covered with very smooth paper, the basket slanted a little, and the bunches of Grapes placed in, stalks upwards, fitting them in closely as the work goes on, they will, if the work be done well, wedge themselves into a close mass, and arrive at their destination with the berries less rubbed than if any packing material were placed among them, save, perhaps, a wedge of paper here and there among the shoulders to keep them in position. Generally, however, a little further packing behind the paper is the best plan for obtaining additional firmness or the least disturbance in transit. Thousands of such baskets are sent long distances to London. Grapes are also placed in a similar manner in light dish-shaped baskets, made to fit and be secured in stout flat hampers. The hamper is termed a "flat," the lighter article a "baby" basket, but quantities of Grapes are firmly packed in "flats" without the "baby." There are doubtless other methods, and if gardeners find any to answer well we will readily publish descriptions of them, which may be sent for that purpose for the benefit of their fellow men. Baskets of packed Grapes are illustrated in Barron's "Vine Culture," 5s. 6d., post free, from the publisher, 12, Mitre Court Chambers, Fleet Street, London.

Yucca aloifolia (Yucca).—This plant may be seen in flower with fair frequency. The plant will not suffer in the least through the production of the flowers, which are creamy white and borne in pyramidal panicles.

Diseased Tomatoes (T. P. R.).—The fruits are attacked by the parasite *Cladosporium lycopersici*, of which you will find an illustration and a description with remedies in the *Journal of Horticulture* for July 2nd, 1896, page 22. We shall be glad to give you all the assistance we can.

Raspberry Suckers (T. Q.).—It is the nature of the plants to produce suckers from underground stems more or less, according to varieties. The suckers should be pulled up, not cut off under the surface with a spade, as this ultimately results in a greater number. About half a dozen of the stronger canes should be reserved to each plant for next year's bearing, pulling up all others carefully.

Making Strawberry Bed (Idem).—It is certainly much better to select a new place for the intended bed than to pull up the old plants and put in young ones in their stead. The ground will have been more or less exhausted by plants standing on it for some time, and the pests preying upon the plants and crop drawn to the plot, so that there is great advantage in a change. The ground should be well manured and deeply stirred or trenched, and good well-rooted runners planted with as little delay as possible, so as to secure good growth and stout crowns by the autumn, thus having promise of a crop of fine fruit another season. To effect this the plants must be well attended to by watering and hoeing as needed for promoting growth and preventing weeds. Cut off runners, and give a mulching of short manure in the autumn.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (A. R.).—1, *Tradescantia virginica*; 2, *Geranium nodosum*; 3, *Melilotus albus*. (S. C. F.).—1, *Osmunda gracilis*; 2, *Campanula trachelium*. (A. W. M.).—1, *Lychnis chalcedonica*; 2, *Corydalis lutea*; 3, *Dianthus atro-rubens*; 4, *Dictamnus Fraxinella alba*; 5, *Erica Cavendishi*; 6, *Saxifraga pyramidalis*. (J. B.).—1, *Adiantum concinnum latum*; 2, *Adiantum decorum* seedling; 3, *Adiantum amabile*; 4, *Adiantum trapeziforme*; it is not uncommon for the fronds of this Fern to assume two colours, and does not detract from its beauty; 6, *Nierembergia gracilis*.

COVENT GARDEN MARKET.—AUGUST 10TH.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve ...	0 0	to 0 0	Grapes, lb. ...	1 6	to 3 0
Cobs ...	0 0	0 0	Lemons, case ...	11 0	14 0
Filberts, 100 lbs. ...	0 0	0 0	St. Michael's Pines, each	2 6	5 0
Gooseberries, $\frac{1}{2}$ sieve ...	1 6	2 0	Strawberries ...	1 6	3 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0 0	to 0 0	Mustard and Cress, punnet	0 2	to 0 4
Beans, $\frac{1}{2}$ sieve ...	0 0	0 0	Onions, bushel ...	3 6	4 0
Beet, Red, doz. ...	1 0	0 0	Parsley, doz. bnchs. ...	2 0	3 0
Carrots, bunch ...	0 3	0 4	Parsnips, doz. ...	1 0	0 0
Cauliflowers, doz. ...	2 0	3 0	Potatoes, cwt. ...	2 0	4 0
Celery, bundle ...	1 0	0 0	Salsafy, bundle ...	1 0	0 0
Coleworts, doz. bnchs. ...	2 0	4 0	Scorzonera, bundle ...	1 6	0 0
Cucumbers ...	0 4	0 8	Seakale, basket ...	1 6	1 0
Endive, doz. ...	1 3	1 6	Shallots, lb. ...	0 3	0 0
Herbs, bunch ...	0 3	0 0	Spinach, pad ...	0 0	0 0
Leeks, bunch ...	0 2	0 0	Sprouts, $\frac{1}{2}$ sieve ...	1 6	1 9
Lettuce, doz. ...	1 3	0 0	Tomatoes, lb. ...	0 4	0 9
Mushrooms, lb. ...	0 6	8	Turnips, bunch ...	0 3	0 4

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blooms ...	3 0	to 4 0	Marguerites, doz. bnchs. ...	1 6	to 2 6
Asparagus, Fern, bunch ...	2 0	3 0	Mignonette, doz. bnchs. ...	1 6	3 0
Bouvardias, bunch ...	0 6	0 9	Myosotis, doz. bnchs. ...	1 0	2 0
Carnations, 12 blooms ...	1 0	3 0	Orchids, var., doz. blooms	1 6	9 0
„ 12 bnchs. ...	4 0	8 0	Pelargoniums, doz. bnchs. ...	3 0	6 0
Eucharis, doz. ...	3 0	4 0	Polyanthus, doz. bnchs. ...	1 0	1 6
Gardenias, doz. ...	1 0	4 0	Pyrethrum, doz. bnchs. ...	1 0	1 3
Geranium, scarlet, doz. bnchs. ...	0 0	6 0	Roses (indoor), doz. ...	0 6	1 6
Iris doz. bnchs. ...	4 0	6 0	„ Red, doz. ...	0 3	0 6
Lapageria (white) ...	1 6	2 0	„ Tea, white, doz. ...	1 0	2 0
„ (red) ...	1 0	1 3	„ Yellow, doz. (Perles)	1 0	2 0
Lilac (French), bunch ...	3 6	4 0	„ Safrano (English) doz.	1 0	2 0
Lilium longiflorum, 12 blms	3 0	4 0	„ Pink, doz. ...	1 6	3 0
Lily of the Valley, 12 sprays	1 0	2 0	„ Moss, per bunch ...	0 9	1 0
Maidenhair Fern, doz. bnchs. ...	4 0	8 0	Smilax, bunch ...	1 6	2 0
			Sweet Peas, doz. bnchs. ...	1 6	3 0

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6 0	to 36 0	Heliotrope, doz. ...	4 0	to 6 0
Aspidistra, doz. ...	18 0	36 0	Lilium Harrisii, doz. ...	12 0	18 0
Aspidistra, specimen ...	5 0	10 6	Lobelia, doz. ...	3 0	4 0
Coleus, doz. ...	3 0	4 0	Lycopodiums, doz. ...	3 0	4 0
Dracæna, var., doz. ...	12 0	30 0	Marguerite Daisy, doz. ...	6 0	9 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	4 0	6 0
Erica various, doz. ...	12 0	24 0	Musk, doz. ...	2 0	6 0
Euonymus, var., doz. ...	6 0	18 0	Myrtles, doz. ...	6 0	9 0
Evergreens, var., doz. ...	4 0	18 0	Palms, in var., each ...	1 0	15 0
Ferns, var., doz. ...	4 0	18 0	„ specimens ...	21 0	63 0
„ small, 100 ...	4 0	8 0	Pelargoniums, scarlet, doz.	4 0	6 0
Ficus elastica, each ...	1 0	7 0	„ „ „	8 0	10 0
Foliage plants, var., each	1 0	5 0	Rhodanthe, doz. ...	4 0	6 0
Fuchsia ...	5 0	8 0			



A WILLOW GARTH.

THE modern farmer is a man with many irons in the fire; he cannot prudently confine himself to any one speciality, no two seasons are quite alike, and the divergence in prices is even greater.

Then again, it is impossible to find a farm where the land is absolutely uniform throughout, and in cases where the landlord is a man of means and of liberal disposition (the two things do not always go together), he may do much to forward his tenant by assisting in bearing the initial cost of a new venture.

In the first place, whatever is produced must be an article which the public demands. The man who creates new tastes and popularises them arises but once in a century; the difficulties and risks are too great to be undertaken by a farmer pure and simple. We all of us have at any rate a superficial knowledge of Willows. Those of us who belong to the county team, or to any lowlier association, know that without Willow our bats would be very poor things. Indeed, we have of late read of wonderful prices made of Willow trees solely for the purpose of cricket bats, so that the phrase, "Wielding the Willow," is no exaggerated term. We believe there are firms in this country who are only too glad to buy up all the good sound Willow on which they can lay their hands.

But it is not of this style of Willow growing we would write, except to say, *en passant*, that it is a pity to let good Willow spoil for want of cutting. Like all other trees the Willow reaches its zenith, and then quietly goes to decay. We always think tree-planting is a bit neglected by small owners. They are apt to consider the return of outlay so far distant, forgetting that it is not fair to one's heirs to entirely overlook their interests.

Many years ago when purchasing a parcel of land in the parish where we lived, we became possessors of a piece very far from first-rate—low, black, boggy land, bad pasture, and worse arable, and we were a good deal exercised as to how to make the best of it. We suppose the fact of living in a neighbourhood where much was done in the way of marketing Potatoes (early) and Peas in hampers, suggested the idea of Willow cultivation, and a Willow garth it was turned into, and still remains. Although Willows love a moist situation, it is well to get rid of all stagnant water. As to the drains, some prefer open dikes, others with a view to economy of land like drain pipes, but these in process of time are apt to get choked. The land intended for Willows should be well worked and liberally manured, and then the attention of the would-be grower should be directed to the choice of suitable varieties. Willows take a good deal of carriage, so it is desirable to grow those sorts which the local market may demand.

For the ordinary farmer, who is content just to deliver the raw material, Black Osiers and Spaniards will be found the best and most profitable. The Dee Willow is also largely used for rough hamper and basket work. Where game abounds the "Bitter Willow" may be grown safely—it does not commend itself as an article of diet. It

is well, also, to bear in mind that where some Willows will only grow by the inch other varieties count their growth by feet. As Willows are grown from cuttings—preferably taken from two-year-old shoots—it is well to ascertain the quantity required per acre. We all know (or ought to do) how to grow seed Potatoes, many and close, and it is very much the same with the Willow.

If the shoots are wanted fine and small plant closely, say 16 inches between the rows and 9 inches between the sets. Where there is allowed 20 inches between the rows and 16 between the sets 20,000 cuttings would be required per acre. The rows must be kept straight and even to prevent loss of space and to facilitate cleaning. The cuttings should be about 12 to 14 inches in length, of good, well-ripened wood. Experts say the cuttings grow better when buried; some growers, however, prefer to leave one-third out of the ground. During the time of growth these small plants must be kept carefully cleaned. Any places where a cutting has missed must be filled up at once.

The harvesting should begin in November, or as soon as the leaf falls. Clearing the ground gives the frost a chance of getting at the land. The best method of cleaning the ground in April is by a paring spade between the rows and the ordinary 9-inch hoe between the stools. The paring spade is made of the best Sheffield steel, and has a long and powerful handle, with which the spade is pushed along just beneath the surface—in fact, it is very like one of the old-fashioned push or Dutch hoes, except that there is a sharp perpendicular blade down the centre to divide the paring in two, and so make way for the handle without lifting out.

Cuttings for planting should certainly be taken from rods of two years' growth. Many growers say that they should be from maiden stools—i.e., from the first cutting. Probably this may be a little advantageous, but we do not think that it is absolutely essential.

Reverting to the depth of planting, we think that 1 foot beneath the soil and 3 inches above is quite sufficient, and the nearer to those lengths the better will be the prospect of success.

A word of warning as to leaving Willows for two years' growth. Spaniards must never be left for such a purpose, they must be cut annually. Black Osiers are strong Willows, and will stand two or three years well. Spaniards, if well cultivated, make beautiful rods in one year and fetch the top price. Black Moulds are very good quality, but they are delicate and shy croppers. A good Willow is the Longskin, a very light green rod; it does not grow very long, but is straight, and seldom breaks into a number of small shoots, whilst the stools send up numerous shoots, which is a point in which the Spaniard fails.

We now place before our readers an imaginary balance-sheet to give the would-be Willow grower some idea as to what his profit may be when he gets it. It will be seen that for two years it is a matter of paying out, and that several years must pass before the original outlay is entirely cleared off.

First year's expenses:—

Trenching 18 inches deep per acre	...	...	£15	0	0
Planting	...	...	2	0	0
Plans at 10s. per 1000	...	...	10	0	0
Cleaning	...	...	1	0	0
			£28	0	0

Second year—

Cleaning...	...	...	1	0	0
Harvesting rods	...	...	3	0	0
Two years' rent and rates	...	...	2	10	0
			£34	10	0
Realised by two-year-old rods, 6 tons at 50s.			15	0	0

£19 10 0

Third year's expenses—

Cleaning...	...	...	1	10	0
Cutting and harvesting	...	...	2	10	0
Rent	...	...	1	5	0
			£5	5	0
Yearling rods, 4 tons at 50s.	...	...	10	0	0
Less expenses	...	...	5	5	0
			£4	15	0

It will thus be seen that four more years will be occupied in clearing off the adverse balance of £19 10s. if all goes well, so that in any case the Willow grower can hope for little profit until the seventh year. Of course sometimes rods make £5 per ton, but at others they have fallen to 30s., and we think we are justified in stating 50s. as the average price of green rods.

WORK ON THE HOME FARM.

But for one slight shower the drought has continued unabated; there have been slight indications of rain, with a falling barometer, but our hopes have always been disappointed. Strong winds have assisted the hot sunshine in drying the moisture out of the soil, and it is probably many years since the land has been as dry as it is just now.

On the thin limestone Barley is almost dead, and rain now would be too late to do much good. Even Wheat on such land is showing prematurely ripened patches, but the appearance of Barley in some fields is quite extraordinary, patches of white shading off to deep green within a few yards.

Second early Potatoes are being lifted, but they have ripened much too quickly, and are a very light crop; 3 tons of ware per acre is all we can deliver, and there are probably 2 tons per acre of small.

Turnip cleaning is about finished, and the men can be allowed a day or two off to visit friends, besides a day at the local show. This latter they much enjoy, and many are the criticisms through which the judges' decisions have to pass, for, low be it spoken, the men who work horses, and therefore should know much as to the practical qualities of them, do not always agree with the opinions of the official experts.

With harvest coming on apace we have overhauled the reapers and purchased one new one. Self-binders are all the rage, and we hear of five new ones going into one parish. The self-raker, however, is not yet done with, for an agent states that his firm will sell 100 of them this season. There is one thing to be said for them, they will work in wet weather as well as dry. A shrewd farmer thinks this to be a doubtful advantage, particularly in reaping Barley, for as the tying-up of wet Barley is a most undesirable operation, the inability of the string-binder to work under damp conditions acts as a most salutary check on indiscreet hurry.

When men are at piecework tying after a sail reaper they are apt to put pressure on the foreman to reap, when his judgment should tell him the corn is too damp. This factor does not come in with a string-binder.

OUR LETTER BOX.

STORING CORN.—I see in reading your article under the head of "Home Farm" in the Journal of the 4th inst. an estimate for storing 10,000,000 quarters of Wheat at £1,250,000. You will see the mistake, taking Wheat at only 30s. per quarter it means £15,000,000.—H. T. H.

[The £1,250,000 was not meant to include the prime cost of the Wheat, but only the expense incurred in storing it. This would include handling, warehousing, and interest of money.]

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.
1898. July and August.	Barometer at 32°, and Sea Level	Hygrometer		Direc- tion of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Tempera- ture.		
		Dry.	Wet.			Max.	Min.	In Sun	On Grass	
	inches	deg.	deg.		deg.	deg.	deg.	deg.	deg.	inchs.
Sunday 31	30.232	64.2	56.0	N.W.	60.0	78.4	46.6	119.2	42.4	—
Monday 1	30.127	66.6	61.0	W.	61.6	79.3	51.3	127.6	46.0	—
Tuesday 2	30.033	66.1	59.4	W.	62.1	78.1	53.1	121.1	47.8	—
Wednesday ... 3	29.930	67.2	60.8	S.	63.5	75.4	57.1	119.3	51.9	0.024
Thursday .. 4	30.021	63.4	57.3	N.W.	63.1	73.7	50.0	121.6	46.9	0.010
Friday 5	30.007	65.1	59.7	S.W.	62.7	76.1	55.1	123.1	49.3	—
Saturday.... 6	29.837	65.2	64.1	S.	63.6	69.0	63.7	78.3	59.2	0.042
	30.027	65.4	59.8		62.4	75.7	53.8	115.7	49.1	0.076

REMARKS.

31st.—Brilliant throughout.

1st.—A lovely summer day, with occasional heavy cloud.

2nd.—Cloudy early; sunny day.

3rd.—Bright morning; high wind and frequent cloud in afternoon, and showers at night.

4th.—Bright early and generally sunny, with high wind.

5th.—Rainy early; windy day, with alternate cloud and sunshine.

6th.—Overcast, with frequent drizzle and showers in evening.

Temperature fairly steady and very near the average, but the minimum on the 6th remarkably high. Rainfall again deficient. Still no week this year with a total of an inch.—G. J. SYMONS.



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COTTAGE GARDENING; being an Essay to which the Royal Horticultural Society awarded Mr. W. EGERTON HUBBARD'S Prize, February 16th, 1870. By E. W. BADGER. Third Edition. Price 3d.; post free, 3½d.—JOURNAL OF HORTICULTURE OFFICE, 12, MITRE COURT CHAMBERS, FLEET STREET, E.C.

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Journal of Horticulture.

THURSDAY, AUGUST 18, 1898.

THE JOURNAL OF HORTICULTURE can be obtained from the Office, 12, Mitre Court Chambers, Fleet St., London, post free for a Quarter, 3/9. Editorial communications must be addressed to 8, Rose Hill Rd., Wandsworth, S.W.

FACTS ABOUT VINE ROOTS.

VINE roots, with their countless tiny ramifications, have a marvellous power which they exercise for the benefit of the parent Vine; ordinary barriers, in the shape of bricks and mortar, do not stop them when they are inclined to ramble beyond the confines of the carefully prepared border—as with the constantly dripping water on the hard stone, it is not the great force, but the persistency which in the one case wears away the stone, in the other penetrates the would-be barrier. A striking illustration of the above principle has lately come under my notice, and I doubt not others have at times met with curious examples of the rambling nature and penetrating power of Vine roots.

I lately had occasion to lower the pathway in a propagating house, when to my surprise I came across many fine healthy roots, which close examination and comparison proved to be Vine roots, which had rambled from a vinery 12 feet away. On ordinary ground this would not, of course, have been anything to cause surprise, but the circumstances under which they forced their way so far from the border proper, are, I think, worth recording. They came from an inside border in an early house, the front wall being bricked up from the foundation, and without arches or opening of any kind. Between this and the propagating house is a solid walk 10 feet in width, then there is the bed of the propagating house, 4 feet in width, with bottom heat pipes. The roots must in the first place have found their way through the wall of the vinery, then travelled beneath the walk, and finally worked through the inside and outside walls of the propagating bed, or, which I think more probable, worked underneath the foundations of the propagating house.

It seems to me that great lessons may be learned and morals pointed from such simple occurrences as these, for does it not show what tremendous obstacles the "infinitely little" rootlets will overcome in the performance of their daily work for the benefit of the Vine, of which they are an insignificant, yet important part. Does it not also

show how the humblest among us can, if we allow no obstacles to bar our way, help materially to forge "golden links" in the chain of progress which an advancing nation must ever be making?

In connection with the above Vines another feature of great interest has recently engaged my attention. Before the Vines were started last spring the border received a heavy dressing of blood and slaughter-house refuse. When material of this description in a fresh state is placed upon the surface of soil decomposition takes place very slowly, and according to all recognised principles of plant physiology, young roots will not enter manure or animal matter until decomposition is in a very advanced state, because they cannot assimilate the rich food it contains until, during the process of decay, the various gases given up combine to form chemical compounds such as the roots can take up. Sweet fresh soil, well decayed manure, or good leaf soil, I, in common with thousands of other gardeners, have usually considered the essential materials for inducing quick and healthy root action; but the fact I am about to relate has led me to considerably modify my opinion in that direction, for I have proved that, under some circumstances, Vine roots will enter, and derive great benefit, from animal matter while it is still in what may be termed a "rank" state.

As the Vines in question were swelling their berries soon after being thinned, I could see they were deriving great benefit from the dressing of blood they had previously received, so I thought I would see how near the roots had approached the great clots of blood which were still in evidence to both eyes and nasal organs. I selected one of the largest of these, thrust a spade under it, turned it over, and, lo! to my surprise I found fleshy white roots had penetrated right through the foetid mass, and wherever I tested the border I found plenty of healthy roots near the surface. This was an "eye opener" to me, and one which I hope in the future to turn to profitable account. When we place manure on a Vine border we of course expect it to bring the roots to the surface, but it is seldom that the roots take hold of the manure until it becomes thoroughly sweetened by exposure and decay.

Another fact which observant Grape growers cannot fail to note is that the roots of Vines show great partiality for heat; a cold wet soil they detest, and will not enter if they can possibly find a more congenial outlet. In the house already referred to the hot-water pipes along the front rest upon the soil of the Vine border, or rather the bottom pipe is partially embedded in it, and I have lately discovered there is a perfect network of roots close up to the pipes along their entire length, consequently this part of the border is watered much more frequently than any other, otherwise the roots would soon be ruined. A warm root run and plenty of moisture are two important factors in the production of heavy crops of good Grapes. In too many instances the soil near hot-water pipes does not get half water enough, and thus one of the most suitable positions for vigorous root action is turned into a death trap for them. I have seen at various times the soil as dry as dust near the pipes, and close examination has failed to reveal roots in any quantity, while those found were withered and practically, if not quite, useless. They could not possibly take up nourishment for the support of Vines, and were therefore of little value. But by judicious treatment they may be made to become valuable accessories towards success.

Mulching inside Vine borders in the summer time is, I think, a mistake, as surface root action is greatly encouraged by the small amount of subdued sunshine which reaches the borders between the canopy of foliage above. Mulching may, however, sometimes be beneficial on an outside border fully exposed to the full glare of the sun on a hot summer's day; but although the conditions between an inside and outside border are so totally different, I am afraid we often, unthinkingly, treat them alike in many respects, when observation should teach us to change—to improve our methods.

These few thoughts about an important subject have been jotted down in the hope that they may cause some among the rising generation of gardeners to think about the matters touched upon, and to test the opinions advanced by the searching light of experience. They are not mere fanciful theories, but solid facts.—H. D.

CYCLAMEN PERSICUM.

THIS is one of those plants which seem best known by their botanical appellation; certainly the English equivalent, "Sowbread," is not by any means so euphonious, nor does it appear as easily applicable as *Cyclamen* to either the Persian or European varieties, with their dainty grace and peculiar conformation. That they are amongst the most charming, and at the same time useful plants, which claim the gardener's attention there is no gainsaying. They are the pride alike, when successfully grown, of the amateur, with his few plants, and the professional, whether he grows them by thousands for the market, or by the score or hundred for the embellishment of a private establishment. As many know, the *Cyclamen* is effective in pots for small vases, for using a number together in stands and the front of small groups, either in the dwelling house or conservatory.

I have used them somewhat extensively in a cut state in various ways, but chiefly for dinner-table decorations. A little patience and care are requisite to produce a good effect, as although the flowers must not be crowded, yet enough should be employed or the result will appear weak. Here let me say a word or two about the lasting qualities of the cut blooms. If they are plucked out of the corin, as they ought to be, and not cut, there will be found a hard portion at the bottom of each stem. If this is not taken off, in all probability in a few hours' time the flowers will be found, even if placed in a sufficiency of water, hanging down and withering, but if this hard part is cut off, which acts as a sort of plug to prevent the water from passing freely into the stems, then with ordinary care the flowers will last several days.

The time is close at hand when sowings will be made in different establishments throughout the country, and if good plants are required in about twelve months, August sowing is generally found satisfactory. Fine plants may be and are raised from seed sown in October, and again in February; indeed, some of the best plants I have seen were raised in the last named month, and succeeded those raised in the autumn. The seed should be sown thinly in well drained pots, or preferably in shallow pans, the soil consisting of light rich material rendered porous with an admixture of sand, and pressed down rather firmly. Means must be employed for keeping the soil fairly and especially uniformly moist, and if the pots or pans are placed on a moist base in a temperature of 55° to 60°, the seeds as a rule will germinate freely. Some plants generally appear before the rest, but as the seedlings become large enough they may be carefully removed and inserted round the edges of small pots.

Cyclamen seed will germinate freely in a cold frame at this season, as I have proved, so there need be no difficulty in raising a number of plants. As the seedlings progress they may be established in 2½ inch pots, and in spring shifted into those of 4 inch size. In these, if the plants are well supplied with nourishment, they will flower satisfactorily, but some of the best should be transferred to 6 and 7 inch pots, when they will make fine specimens a foot in diameter.

Old plants after flowering, and which appear fairly vigorous, are benefited by being placed in a sheltered and shady position out of doors for a few weeks, when they may be shaken free of the old soil, repotted in the same sized pots, and placed in cold frames. With the mention of frames we come back to the young plants of the previous autumn or spring sowing. These, I find, are best kept on a shelf in an intermediate temperature through the winter. Early in June when frames are freed from bedding plants, the young *Cyclamen* may be hardened a little and then placed in them, on a cool moist base of ashes. Then is the time by careful attention to build up the plants which will in future provide a wealth of bloom and striking foliage. Keep them well watered when in need, dew them gently two or three times a day in hot weather, see that the sun's rays do not strike upon the delicate leaves, and the cultivator will have pleasure in watching his plants progress as they do at no other time of the year. They will grow almost as exuberantly as Cabbages after a warm shower in April.

Some growers have been successful with the planting-out system during the summer, but the check which the plants receive at the period of lifting militates in my experience against their after well-doing, and I have not found the method completely satisfactory. The plants flourish in a soil composed of two parts turfy loam, with half a part each of leaf soil and well decomposed manure. Dried cow manure is generally recommended, but is not indispensable.

To sum up, there are two or three points to be remembered in the culture of *Cyclamen persicum*, which if success is desired must never be neglected. Adequate moisture at the roots, and in summer about and amongst the plants is essential. They should always be kept as near the glass as the leaves and flowers will permit. Shade from hot sun, which they do not love, and feed liberally when throwing-up the flowers, either by the means of surface dressings of artificial manure or diluted liquid manure. Thrips and green fly give trouble at times, but as a rule if care is taken in culture the former will not put in an

appearance, and the latter pest must be kept under by fumigating when necessary.

Varieties are numerous, and may be bought to name from the leading nurserymen; but if a packet of mixed seed is obtained from any house of standing it may generally be relied on to provide a goodly number of plants in all the colours in which they are usually represented—pure white, deep crimson, and reds; others are spotted, and some show off the different colours by the familiar basal ring. The Butterfly class is charming, and has found favour; Vulcan is a good dark; and the grandiflorum varieties, though not so free, are well worth including where several plants are grown.—J. SHALFORD.

THE HERBACEOUS GARDEN: ITS EFFECTIVE ARRANGEMENT.

As in other departments of the garden want of taste is here apparent, as gardeners have been content to go on imitating that which they have seen in other gardens instead of copying Nature and utilising their own ideas. I do not intend to give any precise instructions how a herbaceous garden ought to be planted. The general instructions are to plant so as to avoid a break in the floral display, and to plant in lines, with front row, middle, and back row plants. These borders frequently encompass the kitchen garden in front of espalier fruit trees, which is neither fair to the herbaceous plants nor the fruit trees. By planting in mixed borders as they are called, and the term is very appropriate, we frequently, in our endeavours to secure variety, ignore the fact that with variety must be distinctness, harmony, and proportion, if we are to reach success. This, I maintain, is impossible unless we plant in groups instead of single plants dotted about here, there, and everywhere.

My memory carries me back to a herbaceous garden on the borders of the counties of Durham and Yorks. This garden was enclosed by 12 feet high walls of brick, except on its southern side, where it was bounded by a row of Ionic columns supporting an ornamental frieze, from which the park beyond stretched in broad and grassy sweeps dotted with tall ancestral trees. This garden was about an acre in extent, and had three entrance doors, one from the courtyard of the mansion, one from the kitchen, and another from the pleasure grounds, so that it was convenient and of easy access. Its walls were covered with Roses and other climbing plants. The wall having a western aspect was principally clothed with Roses Gloire de Dijon, Rêve d'Or, Reine Marie Henriette, Cheshunt Hybrid, Sombreuil, Rubens, Madame Alfred Carrière, and the China Roses, with the Old Blush, the Old Crimson, and the intense crimson Cramoisie Superieure. On this wall was also the Winter Sweet (*Chimonanthus fragrans*) to cheer the dark December days.

Running the entire length of this wall was an elevated terrace walk, from which we descended by a flight of several stone steps to the garden below. At the northern end of the walk was a summer house, completely overcanopied with *Ceanothus Gloire de Versailles*. The other walls were clothed with climbers—*Calycanthus floridus*, *Forsythia viridissima*, *F. suspensa*, *Kerria japonica*, *Wistaria sinensis*, *Clematis montana*, *Roses Lamarque* and *Souvenir de la Malmaison*, *Jasminum officinale*, *J. nudiflorum*, *Crataegus pyracantha*, *Pyrus japonica*, *Azara microphylla*, and *Aristolochia Sipho*.

At the foot of all these walls were borders of 5 feet in width, in which were plants that are better to remain undisturbed for several years, and comprised *Alströméria chilensis*, *A. aurantiaca*, *Anemone japonica*, *A. japonica alba*, *Anthericum liliastrum*, *A. liliago*, German Iris, Iris siberica, *I. foetidissima* with its coppery purple flowers succeeded by orange scarlet berries, *I. foetidissima variegata*, *Pæonies*, *Physalis Alkekengi* (Winter Cherry), *P. Franchetti*; *Lilium chalcidonicum*, *croceum*, *candidum*, *testaceum*, *Martagon*, and *tigrinum*. Roses, such as *York* and *Lancaster*, *The Old White* (York Rose), and many varieties of Moss Roses. The common Musk carpeted the ground, and spaces left at intervals were occupied by broad patches of *Aquilegia chrysantha*, *A. cœrulea*, *A. glandulosa*, *A. californica*, and Iceland Poppies. Some seeds were annually sown to keep up the display of Columbines and Poppies.

The border under the high walk of the terrace being narrow, had only low-growing plants at its foot, and these were in broad patches, consisting of Old Crimson Clove Carnations and Mrs. Matthews white Clove. Stocks were also here planted annually, and Mignonette sown. *Tiarella cordifolia*, with its beautifully marked leafage and *Spiræa*-like flowers, and *Meconopsis cambricum* (Welsh Poppy) also flourished. The edging was of broad stone, and then a 5 feet walk. The terrace wall was almost on a level with the walk, and was surmounted by low unpretentious stone vases, which throughout the summer were fountains of flowers, planted as they usually were with the old white Pink of cottage gardens, and Mrs. Sinkins Pink. The vases were not more than 2 feet high, and so were completely hidden by the wealth of flowers and grass of the Pinks. These were a lesson

in beauty that Nature unadorned is adorned the most. For how frequently are ornate vases and richly sculptured figures too conspicuous in our gardens to mar the quietness and repose with their severity.

Descending the steps, placed exactly in the centre of the terrace, on each side was a border of Hybrid Perpetual Roses, grown on the pegging-down system. These extended the whole breadth of this quadrangular garden, the central part of which was grass kept closely mown. On the grass were beds of various sizes, but all circular; each bed containing only one species or variety of plant, and this system of planting I wish to commend, as it gives distinctness, and also allows of the exact requirements of the plants being administered. Those requiring annual division or mulching could have it without interfering with the tastes or idiosyncrasies of their neighbours.

Amongst the many beautiful plants in these beds in June and July, to enumerate first those conspicuous for nobility or gracefulness of form, were *Astilbe rivularis*, *Asphodelus luteus*, *A. alba*, *Bocconia cordata*, *Centaurea macrocephala*, *Chelone barbata*, *C. obliqua alba*, *Dictamnus Fraxinella*, *Echinops ritro*, *Eryngium amethystinum*, *Eupatorium purpureum*, *Galega officinalis alba* (profuse with small white Pea flowers), *Gladiolus byzantinus*, *G. Colvilli alba*, *G. cardinalis*, *Hedysarum coronarium*, *II. coronarium album* (red and white French Honeysuckles), *Hemerocallis fulva*, *H. flava*, *H. flava fl.-pl.*, *II. Kwanso fol. variegata*, the latter most distinct and beautiful, with bands of green and white; *Hyacinthus candicans*; English and Spanish Iris; *Meum athamanticum*, with umbels of white scented flowers and Fern-like leaves; *Monarda didyma*, *Morina longifolia*; *Spiræas Aruncus*, *Lindleyana*, *palmata*, and *filipendula plena*; and *Veratrum nigrum*. In addition there were tall Phloxes, Delphiniums, *Dielytra spectabilis*, *D. eximia*, *Thalictrum aquilegifolium*, *T. minus*, *Campanula persicifolia*, *C. persicifolia alba*, *C. persicifolia fl.-plena*, *C. glomerata dahurica*, *Geranium lancastriense*, *G. sanguineum*, *G. ibericum*, *Mertensia siberica*, *Teucrium chamaedrys*, Oriental Poppies, *Papaver pilosum*, double white Rockets, various *Veronicas*, *Lychnis dioica fl.-plena*, *L. vespertina fl.-plena*, *L. viscaria fl.-pl.*, and the pink *Lychnis flos cuculi fl.-pl.*; *Valeriana vulgaris*, *Potentillas*, *Geums* and herbaceous *Pyrethrums*, and *Salvia pratensis*—in fact, a whole nurseryman's catalogue might be enumerated.

The fronts of the wall borders, and also the Rose border under the terrace, were margined next the gravel walks by a broad margin of dwarf plants. The Rose border had a 2 foot broad belt of *Campanula pumila alba* (white). The margin of the border under the wall with eastern aspect was *Campanula pumila*, which were renewed annually. The wall with southern aspect had a broad margin, 2 feet in width, of *Thymus azarica*, aglow in crimson in June and July, and during summer many beds and vacancies in the borders were filled with half-hardy plants, while spaces were reserved for biennials, such as *Honesty* (*Lunaria biennis*), Canterbury Bells, *Chrysanthemum coronarium*, *Antirrhinums*, *Pentstemons*, clumps of Sweet Peas, surrounded by wire netting, the netting being low enough to be completely hidden, and Clematises were also planted in the same way. There were also bushes of Lavender, Rosemary, Southernwood, and Cottony Lavender for perfumed shoots. Tall plants growing from 3 to 5 feet in height were distributed evenly over the whole space. The same was done with those from 2 to 2½ feet high, and those of from 9 inches to 1 foot, so as to give proportion and balance to the whole.—F. STREET.

ANNUAL SILENES.

ANNUAL SILENES are hardy and showy spring-blooming bed, border, and rockery plants. The most popular are the varieties of *Silene pendula* in pink, white, red, crimson, and intermediate shades of colour. There are both double and single varieties, any of which produce a fine effect when blooming. Massed together on a rockery or a border, or occupying a bed, the plants grow exceedingly free, but they ought not to be crowded at the first, as each plant, if given room when a seedling, soon commences to branch and forms superior plants to those that are crowded. On shrubby borders and waste places *Silenes* are often found self-sown, solitary seedlings growing with a freedom and vigour which proves the immense advantage of providing sufficient space for the early development.

Silenes will grow in any ordinary soil. Seed should be sown during this month or September, either where the plants are to flower, or on a bed of light soil, the seedlings in the latter case to be afterwards transplanted 3 or 4 inches apart. Here they will grow and strengthen, making compact well rooted examples. They will be ready to move to their flowering positions any time between late in autumn and the following March, selecting a mild period for the planting. They are readily moved with good balls of soil attached, especially if a little leaf soil was worked into the ground before transplanting from the seed bed.

The most desirable varieties for bedding are those which only grow about 4 inches high, such as *S. pendula compacta*, *S. p. compacta alba*, and several other specially selected dwarf forms. The variety *S. pseudolatocion* is early blooming and very hardy, but a loose, spreading grower, not adapted for cultivation close to the edges of beds or borders.—F. D. S.



MASDEVALLIAS.

It is difficult to account for the unpopularity of the various sections of this genus of Orchids, for if we except the showy flowered class as represented by such well-known kinds as *M. Harryana*, *M. Veitchi*, *M. ignea*, and *M. amabilis*, and the peculiarly constructed *M. chimæra* and its allies, there are few indeed that obtain anything like a fair show of attention. There is—withstanding their marvellous variety—a wonderful family likeness, as it may be termed, among *Masdevallias*, and it is usually easy for anyone at all acquainted with Orchids to pick out a member of this genus.

Respecting those mentioned above we will say nothing in this note. They are well known, and universally admired, but there is a number of small-growing species of the most wonderful structure and exquisite beauty that lack the showy nature of their compeers, and are in consequence little known. But a remarkable testimonial to the interest they create in the minds of those who take up their culture is the almost fondness with which cultivators who are successful with them look upon their favourites.

They appeal most strongly to a cultured person who will take them up with a view to admiring their interesting features and grotesque forms, the wondrous arrangements made by Nature for their fertilisation, and the delicate and lovely gradations of colouring that attract the eye. Those who only admire a *Cattleya* for its gorgeous blossoms, and do not note the structure of the flower, will find little interest in them. In short they comprise in one flower the most of the striking and lovely characteristics that during the present century have made Orchids so very popular.

One of the prettiest is *M. Shuttleworthi*, this and its variety *xanthocorys* having showy and lovely flowers. The peculiar *M. ehippium* again, and the charming flowers of such as *M. erythroclæte* or *M. Estradæ*, are very beautiful. Each has its individual characteristics, as also has the tiny flowering *M. triaristella* and *tridactylite*. It is little use describing such species, a bald description of their forms, the colour of this or that kind, or the structure of another, giving no idea of what they are really like. To know them and appreciate them they must be seen and closely studied.

Most readers will be more interested probably in knowing how to grow them successfully, and this fortunately is not in most instances at all difficult. Those of so small a habit as the last named naturally require the greatest care, as there is so little to come and go upon, as it is termed; and a few days of severe drought or a few hours' exposure to bright sunlight, untempered by copious moisture, would prove fatal to them. But with ordinary care this need not be of course, and the more salient points of their culture mastered established plants may be grown with the greatest ease.

The principal condition is a moist cool temperature, very close shading during hot summer weather, and abundance of air moving over and about the foliage. By this means we imitate as nearly as possible artificially the climatic conditions of their native habitats. During the winter months our long nights and dull dreary days are a great trial to such purely Alpine plants, and the most successful cultivators are those who keep their glass stages and plants clean during the latter season.

As to a rooting medium, the pots or baskets they are placed in should be very limited as to size, and the amount of compost small. Even in their native place the hold they take upon the trees must be slight, so that an inch or thereabouts of peat and moss over good drainage is enough for the largest plants. The *Shuttleworthi* and *Backhousiana* section will, of course, require more, being of a grosser habit and stronger rooting, but even here it is better to err on the side of too little than too much material.

One of the most interesting chapters on these "botanical" species—as they are rather peculiarly termed—I have seen is "Sketches of Wild Orchids in Guiana," in the current number of the Royal Horticultural Society's Journal, by Mr. E. F. im Thurm. This will well repay perusal by anyone interested, as giving a most graphic yet picturesque account of how they grow naturally. And all these lovely plants are easily grown by anyone who has command of the smallest house, for they take up very little room; and to all who admire Orchids, and have not yet tried them, I can recommend their culture, feeling sure they will not be disappointed in them.—H. R. R.

THE DECLINE OF THE PELARGONIUM.

By the above title I do not wish to infer that the cultivation of the Pelargonium has deteriorated to any great extent. On the other hand it may have improved, as anyone who has seen the collections of winter-flowering Zonal Pelargoniums belonging to our best growers will agree. The brightness, variety of colour, the elegance of the large trusses of bloom, rising from a groundwork of healthy foliage, give an effect that it is impossible to get with any other flower in the depth of winter. This phase of Pelargonium culture belongs principally to modern times, and the credit goes to modern growers. In past days the chief aim was for summer embellishment, and the Pelargonium played a conspicuous part in the adornment of the cool greenhouse and conservatory during the bright months of the year; but in few instances were plants grown to impart a ray of brightness during the short dull days of winter. In this respect, then, Pelargonium culture has improved, though comparatively few gardeners have the facilities for growing good collections for winter blooming.

Let us now look at the other side, and we shall find that the decline is more marked than the advance. Amid the inrush of new plants the Pelargonium has to some extent been left behind. At one time the house of Pelargoniums was a feature in many places—something that both gardener and employer took a keen interest in, and it was with a degree of just pride that their merits were discussed with visitors. Their place is not vacant, but the "Geraniums" no longer occupy a prominent position. The craze for something new has affected the old favourites, and though they cannot be dispensed with they have to do the best they can just where there happens to be room for them. Indispensable on account of their usefulness, "Geraniums" are grown largely, but nevertheless their popularity is on the decline, and this is chiefly noticeable in the small amount of interest that is taken in them. You see them as you walk through the houses and round the grounds of any establishment, but in few instances are they considered of sufficient importance for the gardener to call special attention to them. In this alone there are signs of the decrease in popularity.

Again, take the Pelargonium as a bedding plant, and the tendency is in the downward direction. At the time when summer bedding was a much more important business than it is to-day they were indispensable. One section was largely grown for the flowers and another for tinted foliage, and it was not until the time had arrived for a change to take place, and other plants were forthcoming for bedding purposes, that the shortcomings of the one that had served so long began to be noticed. With the advent of the *Begonia*, *Fuchsia*, and other plants for bedding the failings of the "Geranium" began to show themselves. One brought the charge that they were useless except in tropical summers, as they made all leaf growth and no flowers; another said that they were too flat and monotonous. The truth of the matter was that public taste was changing, and the popularity of the bedding Pelargonium had begun to wane. It is waning yet, and though in the flower garden as in the greenhouse we cannot dispense with the plant entirely, it is annually becoming more of an extra than a speciality.

If other evidence be wanting, turn to the Pelargonium as an exhibition plant. The growing, training, and showing of Zonals and Fancies is a fine art, which appears to be gradually becoming extinct. At the great show in the Temple Gardens Pelargoniums were almost conspicuous by their absence. I do not remember seeing one exhibit of Zonals, except specimens of new varieties; and occupying a corner of a large exhibit were a few plants of Fancy varieties. A few others, which presumably could not be accommodated under canvas, occupied an obscure and solitary position outside one of the tents. Is this not evidence of the decline of the Pelargonium? There were plants and flowers of almost every description represented—some rare and others common—yet in only one instance was the Fancy Pelargonium considered worthy of a place, and no exhibitor brought show plants of Zonals. I have only visited recent Temple Shows, but I have recollections of seeing charming groups of the flowers, and if we may take it that the Temple Show is a representative one of all popular productions, then the evidence is conclusive.

I have one more point to add. In private gardens trained plants of all kinds have had their day, and this applies to Pelargoniums. Training was the pride of one race of gardeners. The Fancy or Zonal Pelargonium of enormous dimensions, with every flower staked out, and the outline as regular and unbroken as if they had been trimmed for the purpose, are sometimes seen at shows, but rarely in private gardens. Fancy and Show Pelargoniums to be first-class require care in cultivation, and they must be kept clean. Neither of these points is difficult, and though there may be just reasons for not following the lines of close, stiff training with the plants, they are, when naturally grown, so beautiful that any decline in their popularity can only be attributed to the fancies of fashion.—G. H. H.

GROWING CINERARIAS.

It is possible to have Cinerarias in bloom from November to April. They are very fitting plants for producing a showy display, whether they bloom in autumn, winter, or spring. It is very desirable to have a number of plants sufficiently well grown in 6 or 7-inch pots, so that they may begin to bloom in November, for with good treatment they last in excellent condition a considerable time—in fact, it is easy to retain plants that develop bloom by the early part of December in attractive form over Christmas. To be thus durable they should be clean and healthy, by which it may be understood that the roots are plentiful and active, the leaves large, luxuriant, and free from aphids, or the disfiguring markings of the Cineraria fly.

To obtain plants which will bloom at the comparatively early period named, seed ought to be sown in March and April. There is usually not much trouble in inducing Cineraria seed to germinate, provided good, sweet, light soil is placed in well-drained pots or pans, and only just lightly covered. Shading from strong sun and healthful conditions of moisture, with a strengthening supply of air, bring the seedlings on steadily to the rough leaf. They enjoy also a little heat at that period, probably because it is accompanied by genial atmospheric moisture, such as obtains in a greenhouse temperature. The seedlings are subject to receive a check from various causes, such as being overwatered, distressed by heat, sunshine, or placed in cold draughty positions. Checks of this kind are extremely detrimental to growth, which is made more difficult in becoming free by the attack of insects—an almost certain result of checks.

The best treatment to accord seedling Cinerarias is, when they are growing freely, to transfer them to a frame, where at first a little confinement will be desirable, but afterwards commence to give air gradually, though always from a point where draughts do not blow directly upon the young plants. Light sprinklings frequently will be better than heavy waterings, as roots are not then numerous, and a moist atmosphere is beneficial.

Should the seedlings be crowded the sooner will it be necessary to prick out, so that more room is available for them to strengthen. When not crowded, seed having been sown thinly, it is frequently possible to lift and place directly in small pots without the trouble of pricking out.

It will be found, however, that some of the seedlings, if not crowded, are slow growing in comparison with others, the reason being that they are of a choicer character, and will develop into plants producing the best blooms. Hence every encouragement should be given to these by carefully moving them as soon as possible into fresh soil. Therefore the free and rapid headway which some seedlings make is not proof that they are superior in quality, but usually the reverse. On this account it is well to take care of the smallest seedling, cultivating it well, in order to secure the best results from the choicest strains of seed.

The first potting may be given into 3 and 4½-inch pots. The latter size will readily accommodate nice strong plants that have been pricked out in boxes or pans, and from that size may be transferred to 7-inch pots, while those in 3-inch pots can have a shift into the 6-inch

size. Plants in the latter size are the most generally useful when in full bloom for various forms of indoor decoration. Larger plants and pots may be employed also, but they are more in place on the conservatory stages, for decorating the structure and affording flowers for cutting. Cinerarias being rapid growing plants require rich, light, and porous soil. A mixture of turfy loam and leaf soil in equal parts, a quarter of decomposed manure, the same quantity of silver sand and broken charcoal, will form a suitable mixture for the various pottings. Very clean and dry pots ought always to be used for Cinerarias. The succulent roots run rapidly to the outside of the ball of soil, and adhere with tenacity to dirty pots, from which they are with difficulty induced to become detached, but with clean pots the roots come away freely. This is a little matter which is worth mentioning, as the use of clean pots is frequently ignored, and not considered of any importance.

In potting be careful to have the soil moist. Every practical man knows the importance of this, and may think everyone else does. It is mentioned, however, for fear that is not the case, together with the reason, which is this:—Dry soil is not suitable for roots to travel in, and to make it sufficiently moist after potting would cause it to be sour and more unsuitable for rooting in than when dry. Therefore the happy medium must be struck, and as far as possible maintained, especially just after potting. In placing young plants in pots when they have previously not been in those receptacles, some care must be given to distributing the roots equally unless they are lifted with soil attached, in which case less care is requisite, as the roots are properly and naturally distributed in the adhering compost. Drain the pots with clean crocks, and over them place a layer of the rougher parts of the soil. Let the plants be of the proper height, so that the crown is not buried too deeply or raised too high. Finally fill in with compost, generally shaking or pressing down gently with the fingers. Potting should be carried out when the material becomes plentifully permeated with roots, but before the plant is root-bound. The plants must be kept growing vigorously until the pots in which they are to bloom are filled with roots. This then gives a natural check

to the plants, which causes the energy hitherto employed in enlarging them to building up the flower stems and developing the flowers.

Immediately after transplanting, potting, or repotting, the plants must be kept a little closer in the frames and shaded from sunshine. Water at the roots will not be needed at first, but light syringings may be given and the base on which the pots stand kept moist. After a few days, however, give a copious watering, and then wait until a similar application is again needed, but in the meantime gently sprinkle the foliage in the afternoon or evening after the sun has left the frame. During settled warm weather leave off lights at night. The plants appreciate the cool night air, which strengthens the foliage by the deposition of the night dews.

On the approach of very frosty weather the whole of the plants would be better in a house or pit from which frost can be excluded, but not, if possible, at other times heated. The plants will be all the better for standing on a moist stage where light in abundance can reach them, but failing such a position place them on a shelf near the glass.

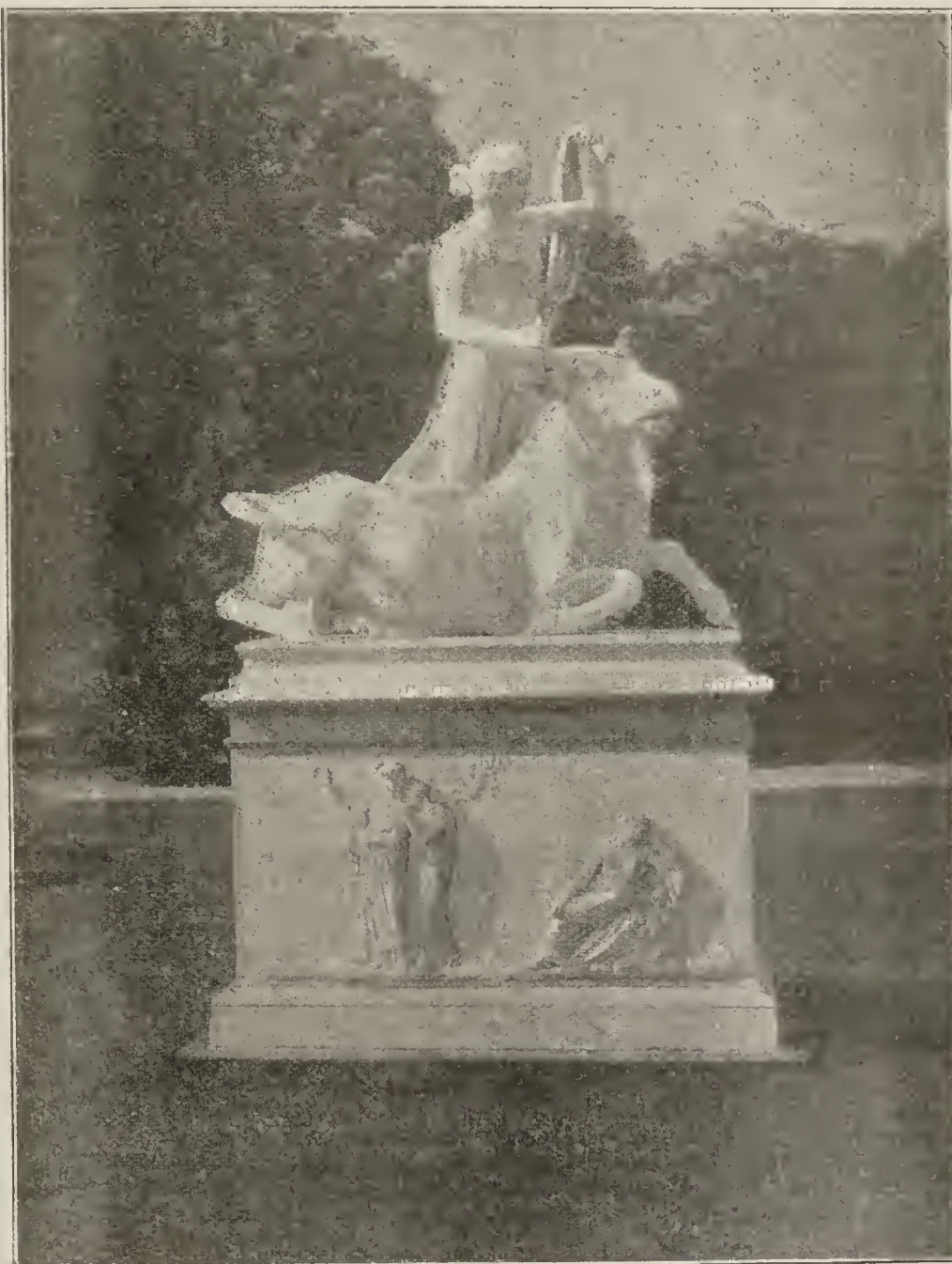


FIG. 22.—STATUE OF EUROPA IN GRIMSTON PARK. (See page 128.)

Any of the early specimens showing bloom may be placed at the cooler end of a conservatory or greenhouse. It is not advisable to feed the autumn-blooming plants freely, as the flowers will endure much longer if developed with the soil in sweet moist condition from clear water only.

The principal insect pest infesting Cinerarias is green fly, and the best method of keeping the plants free from attack is an application of N.L. All fumigating compound. Give the plants plenty of room with their heads near the glass. Look out for slugs, which attach themselves to the under side of the leaves in the moisture of autumn, and soon permanently disfigure the foliage.

Weak animal manures and soot water are excellent stimulants for Cinerarias, commencing to give them only when the pots become filled with roots and the food in the soil is consequently all but exhausted, or soon will be by the developing flower stems. Light sprinklings of artificial manure may be given as a change. The plants at this stage ought never to suffer for even a short time by want of water. Shade from strong sunshine assists the bloom in remaining fresh for a longer period than otherwise.—E. D. S.

EXPERIENCE WITH STRAWBERRIES.

MR. H. RICHARDS has done his part well in inviting the many able correspondents of our faithful old friend, the *Journal of Horticulture*, to record their experience of the varieties of Strawberries which are cultivated at the present time. I have gained many lessons of instruction and advice from past and present writers, and the only way that I can think of in repaying those cultivators is to add my mite of experience for what it is worth, when I can.

VARIETIES OF STRAWBERRIES.

The first I will mention is that capital variety in many districts, Sir Joseph Paxton. With me it grows well, but does not fruit worthy of the name. I have never known Sir Joseph fail anywhere before. I have seen large fields of Paxtons in Kent bearing such crops of fine luscious fruit that would put scores of private gardeners to shame. It is rather singular to have such varieties as Thury, Keens, Napiers, and La Grosse Sucriée, loaded with fruit, while Paxtons are practically barren. Such is the case here both within the garden walls and outside them.

Commander is another peculiar variety with me; once seen when in flower it will not be easy to forget, as the flower trusses rise so clearly above the foliage. I tried it two years. The plants produced abundance of flowers, but through being so much exposed to frost, wind, and sun, we did not obtain anything like a full crop; what fruits did set and ripen were of very good flavour.

Black Prince and King of the Earlies are heavy croppers, but the fruit is too small. Amateur, James Veitch, and Noble are good croppers, producing large fruit, but of inferior flavour. They had to go to the rubbish heap. Sir Charles Napier had finely coloured fruits, and plenty of them, but the flavour was much too acid. Birds did not steal Napier while any other varieties were to be had. Elton Pine does not bear well, British Queen is not worth troubling with here, and Dr. Hogg does not produce half of a crop, and the fruit is very light in colour.

I grew Newton Seedling many years ago, but not here; it is an immense cropper and first-class for jam. La Grosse Sucriée is a good Strawberry of first-class flavour, and a good forcer in pots, but appears to be losing ground as a standard variety. Keen's Seedling is a very indifferent cropper, some plants being loaded with fruit, others with runners instead of fruit. Latest of All crops well here; it is not a strong grower. Unser Fritz does not appear to be a heavy cropper. Waterloo is a grand cropper, producing large, handsome, claret-coloured fruits, which make splendid jam. It is not a strong grower, therefore may be planted more closely than many varieties; Monarch is a fine grower, but has produced little fruit this year from good plants put out last August. We also procured Veitch's Perfection, fifty plants, but lost about eighteen of them after planting. Those which remained were covered with flowers in May, but we picked them off to give strength to produce good runners.

President is a grand all-round variety here. It is good as a grower, cropper, and in flavour. Royal Sovereign has many good points in its favour, but has some defects. When the early fruits are on the point of ripening, several of the largest decay near the foot-stalks, causing much loss. The decay may be only local; I have not read of it in the gardening papers. Another fault is that 7 to 10 per cent. of the plants become stunted pigmies with leafstalks 2 to 4 inches long, not producing fruit, or if any of little use. The first dozen plants that I procured had two of such failures amongst them. I dug out the two plants and burnt them, propagating only from the ten plants left. With care in selection healthy plants are obtainable.

Forman's Excelsior is an excellent midseason to late variety for this district, bearing good crops of first-class fruit. The best of all varieties

this year is Countess, which has points that very few varieties possess. It is a dwarf grower, heavy cropper of large wedge-shaped fruit of splendid flavour, and the firm fruits travel well. Countess will sell in the market or shop while many varieties would scarcely be noticed; its finely coloured fruits always command attention. I first planted this excellent variety seven years ago in a Kentish garden, and it is, therefore, not quite so modern as some people imagine.

A good selection for this district would be the following varieties:—Countess, Forman's Excelsior, Royal Sovereign, President, Waterloo, and Latest of All. For early work we have not a variety to equal Royal Sovereign.

CULTIVATION.

I have an idea that too much nitrogenous manure is often recommended for Strawberry growing. Our soil is rather light—the top 12 inches, the garden having been made for more than a hundred years. There are 4 to 6 feet of hard red clay underneath the surface soil, and beneath the clay is chalk. The water in the well is 74 feet from the surface. The garden is 600 or 700 yards from the River Humber, five and a half miles on the west side of Hull. I believe if we applied more phosphate and less nitrogenous manures we should have less foliage and more fruit. Apply the nitrogen when the flower trusses show themselves. As soils vary so must the treatment. For producing a good crop of Strawberries we bastard-trench a piece of ground for the purpose, working in a fair amount of manure during the process. We like to have this work completed in February, and allow the land to lie rough for a month; then distribute a small dressing of decayed manure, and plant early Potatoes in rows 2½ feet asunder, forking over the ground, and planting at the same time. No system is better. When the Potatoes are ready for hoeing apply the following artificial manure:—Two parts kainit and one part nitrate of soda at the rate of 3 cwt. per acre. Keep the ground free from weeds, and do not spare the cultivator.

By the first week in August the Potatoes will be cleared off; then level the ground, give a dressing of bonemeal, or part bonemeal and part basic slag, 8 cwt. per acre. Work in with a coarse rake, and plant the Strawberries. Three feet apart will not be too much for rows of Royal Sovereign; for such varieties as Waterloo 2 feet will be found sufficient. After planting mulch lightly with short manure, and keep the hoe at work if weeds make their appearance. My advice is, Do not grow too many varieties of Strawberries, but get to know those which are the most suitable for the position, and grow them plentifully.—GEO. PICKER, *Hesslewood Gardens*.

LAGERSTROMIA INDICA.

THIS is one of the most useful flowering shrubs in cultivation suitable for growing in a warm greenhouse or conservatory, its style-of growth being decidedly ornamental, while its flowering qualifications leave nothing to be desired. It is of eastern Asiatic origin, and is one of our oldest indoor plants, having been introduced into English gardens in 1759. Although such an old plant it is by no means common, large bushes being rarely met with. It can be grown well in pots, but is seen to much better advantage when planted in a border of light rich loam on good drainage. Being deciduous it will require a rest during the winter, little if any water being given during that time. It should be started in March, and at that time all the growths must be shortened to within two or three eyes of the main branches; by this means strong shoots are formed which will grow to a length of 2½ or 3 feet before flowering.

The growths are thickly clothed with small, bright green, ovate leaves. The inflorescence is terminal, and forms a large graceful panicle often a foot or more long and containing 100 or more flowers. The flowers are bright pink, an inch across, and beautifully fringed, the fringing probably giving rise to the name of "Crape Flower," which is sometimes applied to this plant.

When grown in pots it should be rested all the winter and potted into a rich compost when growth is nicely started in spring. As a rule the inflorescences are not so fine when plants are grown in pots as when grown in a border. A figure of a small inflorescence may be seen in the "Botanical Magazine," t. 405. Two plants 10 feet high and 8 feet in diameter are at the present time in full flower in the temperate house at Kew. A plant of the variety known as *L. indica elegans* may also be seen. This is a rather stronger grower, and produces flowers darker in colour than the type. A figure of this is given in Paxton's "Magazine of Botany," vol. xiv., p. 269. An intermediate temperature is best suited to the requirements of this plant.—W. D.

CAMPANULA PYRAMIDALIS AT THE DRILL HALL. — In our report of the last meeting held in the Drill Hall, we omitted to make any reference to one of the most conspicuous groups in the Show. This was composed of the blue and white pyramidal Bellflower *Campanula pyramidalis* and *C. p. alba*, and it was exhibited by Mr. G. Wythes, gardener to Earl Percy, Syon House, Brentford. The plants were grandly grown, and made a charming picture. We noted amongst the several specimens were some of the dwarf strain that Mr. Wythes raised, and which he has found so valuable for decorative purposes.



SHEFFIELD CHRYSANTHEMUM SOCIETY.

At the monthly meeting held on the 10th inst. Mr. T. Gartery of Rotherham read an interesting and instructive essay on "Stray Thoughts for Amateurs and Cottagers." The information imparted was very valuable for the beginner (the class to which he addressed himself), and calculated to give him a very good lift both in the garden and greenhouse. It was listened to with interest by all classes of members present. A vote of thanks was passed to the essayist.

In the floral section of the programme Messrs. C. Scott, R. Agar, and T. Morton secured first, second, and third prizes for good specimens of Crotons suitable for table decoration. Mr. W. Willgoose, Dr. Barham, and Mr. W. Donaldson, representing the amateur section, were the prizewinners for cut flowers, of which a fine collection was staged.

Messrs. W. Artindale & Son exhibited (not for competition) two new Caladiums named Duke of Norfolk and Lady Mary Howard respectively. They are good varieties, and will doubtless make their way when put into the market. Mr. J. Haigh presided.

GROWING HOLLYHOCKS.

WHAT is there in the floral world that can take the place of these noble flowers? In my opinion there is nothing so striking and unique in appearance as they are. I am not an old man, but I remember at least twenty years since what a grand collection of them we had in the old country garden where I first learnt to love hardy flowers. Some of the stools were many years old, but the stock was constantly renewed from seed selected with a discriminating eye. There were large clumps, between similar ones of Delphiniums and Monkshoods, and they towered up 7 and 8 feet high. Last spring I revisited the spot, and found Hollyhocks still a favourite flower, and from what I could gather they had, or did not suffer, from the disease which has caused so much vexation to many. Of course it was difficult to ascertain the exact truth respecting such an invader from those wholly unacquainted with the nature of such parasites, but certainly what growth could be seen evidently bore no traces whatever of the fungus.

I always keep my plants in two or three places, so as to avoid, if possible, all of them becoming attacked. In one set some time ago I noticed it making progress, but could not detect the least sign of it on the others. The infested plants were taken in hand at once, all the leaves were removed, and about an inch of the soil scraped out of the pots, and the whole pot plunged in a strong solution of softsoap, with about double the amount of Fir tree oil prescribed for a given quantity of water. The dipping was repeated for four days, and although the solution was strong enough to injure the plants to some extent, yet they are growing freely again, and I do not observe any of the disease, and hope it is destroyed, but am not at all sanguine on this point.

I think it much better to grow a fresh stock from seed every year, securing the seed from a reliable source to start with, and afterwards saving over from the best flowers, for as a rule they seed freely. If seed is sown thinly in pans in February, and placed in gentle heat—say the greenhouse—there will be ample time to get flowers from them in autumn; at least many, if not the greater portion of them, will flower, and the rest next spring; but no time should be lost now, and it is important to sow them thinly, so that they will not require disturbing before being planted out, which they may be after being hardened in a cold frame. Encourage them to grow as freely as possible, and have the ground deeply dug or trenched in which they are to be planted, and heavily manured, for they are great feeders. A large space of ground need not be occupied with them the first year, as they may be planted thickly until they have flowered, when it can be judged whether they are worth keeping or not, after which they can be planted as isolated specimens or otherwise, and enjoy more scope for their development. Delphinium seed sown in spring and treated in the same way will produce flowering plants by the autumn.

Those who possess named varieties of Hollyhocks should place the stools in early spring in a little heat, or if they are in the ground cover them with a hand-light. If placed in heat of course they will come on quicker, and consequently produce better plants the first season. When the cuttings are fully active take them off with a heel, if intended for rooting, and insert them in small pots of light sandy soil, and place in the propagating pit, when they should be carefully watered—not kept too wet—and in about a fortnight they will root. They can also be grafted upon pieces of roots, selecting those about the same thickness as the shoots. This plan is generally adopted where they are largely grown. Ordinary side grafting is the simplest and best way to manage them, and when done place them in small pots of sandy soil and plunge in heat, and in due course, other things being equal, they will unite and form good plants, and, like Roses, if planted below the union, will quickly be upon

their own roots. I usually select seedlings for grafting, as they are more vigorous than portions of roots taken from other plants, and if they are grown in small pots for the purpose the ball can be turned out, sufficient soil removed to put the scion on, and the whole returned again to the pot and then placed in heat. This is a very simple and generally successful way of increasing them.

Supposing it is yet necessary to propagate now, there will still be a good chance to increase the stock by eyes selected from the lateral shoots, which are generally freely produced. Examine the buds in the axils of the leaves, and many of them will be found to be leaf buds. These should be cut up similar to Vine eyes, leaving about an inch of stem each side of the eye, and pot them separately in small pots, leaving the bud slightly above the soil, and plunge in a brisk bottom heat, either in a hotbed or in the propagating bed inside, and in due course the buds will expand and roots will be emitted from the under surface, and before winter sets in really good plants may be had by this means. All the buds will not grow, but with care a good percentage of them will turn out most satisfactorily. I have rooted a good number during the last two seasons, and in spring I repotted those which were worked the previous July upon their showing signs of activity. They were in 3-inch pots, and were shifted into 5-inch size, and placed in a cold frame, where they remained till early in April, when they were planted out in well-prepared ground, which, to insure success, is a very important item, and are now doing well.—OLD GROWER.

AUGUST HEAT.

THE heat in London on Monday was again abnormal, the thermometer registering 87° in the shade. Upwards of thirty cases of sunstroke were treated at six of the metropolitan hospitals before one o'clock. Within a week the thermometer has been as low as 52° and as high as 127°. At ten o'clock on Monday it was 76° in the shade, at eleven 78°, at twelve o'clock 82° in the shade and 98° in the sun, and at one o'clock 84° in the shade and 103° in the sun. At three the figures were 87° and 114°, and at five 86° and 102°. At sunset, when there was every indication of a change to cooler weather, the thermometer stood at 80°, the wind having moved from the south, whence it has been blowing for a week, to S.S.E.

Londoners were awakened on Tuesday morning at three o'clock by a short but severe thunderstorm. The thunder was loud, the lightning vivid, and the rain poured down. But the day was almost as hot as Monday, and the thermometer was little short of 80° in the shade.

On Monday night the heat was felt worse in London than on any previous nights, probably in consequence of the impending storm.

At eight o'clock on Monday morning the thermometer registered 72°, which is as warm as any reading at that hour during the present summer. The reports received by the Meteorological Office show that at eight o'clock in the morning London was warmer than any other part of the British Islands, but at both Hurst Castle and Dungeness the shade temperature was 70°, which is about 14° above the normal, and at other places in the south of England and in the Midlands the thermometer stood very little lower.

In August last year there were four days at the commencement of the month with the thermometer above 80°, and on the 5th the shade reading at Greenwich was 89.5°, but there was no instance of 80° being registered during the remainder of the summer. In August, 1896, the temperature did not rise above 76°, and in both 1894 and 1895 there was only one instance of the thermometer touching 80° during the month. In 1893, when the hottest summer of recent years was experienced, there were fourteen consecutive days in August, from the 8th to 21st, with the temperature above 80°, and on the three days, 16th to 18th, it was 93° and above in the shade, the highest reading being 95° on the 18th.—("Westminster Gazette.")

DWARF FRENCH BEANS.

I SOWED a trial of these at Surbiton, on May 4th, and on the following day all the seeds that remained at Egham. The trial at Surbiton was a complete failure, hardly a seed having grown. That failure seems to have been due to cold soil and air, for similar Beans came badly all around. But the Egham sowing, though on elevated ground, yet being on sand the soil was warmer, the growth was capital, and an admirable trial has resulted. In looking over the rows I wondered in what direction it was possible to improve upon established varieties. All were great croppers—indeed, apparently producing as many Beans as it was possible for such plants to carry. More, probably, the finest new one could not well do under similar conditions. The first was one named Everbearing. It is somewhat dwarf, has very green leaves, and pods of nice length and very fleshy, and throws its racemes of creamy white flowers well above the foliage. Next came the old Mohawk, true to name, although now hard to find classed in seed lists. This is a robust grower, has flattish pods of good length, profusely produced. Then came the dwarf compact grower, Ne Plus Ultra, so well known as one of the best late forcing Beans, that was heavily cropped. Following came the famous Canadian Wonder, which is so good and so hard to beat. This is a robust grower, crops heavily and continuously, and has very long handsome pods. A capital stock is Long-podded Negro, again wonderfully productive, though the pods are rather shorter than the preceding. Very robust is Perfection, and a great cropper; so also is Magnum Bonum—indeed, all are so good that it would be very difficult to say which is best.—A. D.



WEATHER IN LONDON.—From Friday last until Monday evening everyone in London was complaining of the intensity of the heat, which on the first three days reached 85° in the shade, while on Monday it was 87°, and on Friday it was 119° in the sun. Not only were the days hot, but the nights also were most oppressive, and there have been many cases of illness and death from the heat. On the evening of Monday there came a breeze, and during the night a thunderstorm with heavy rain, and Tuesday was a little cooler. Wednesday opened dull and cool.

— DESTROYING ANTS.—A great source of trouble to growers of such fruits as Peaches and Nectarines are ants, which will quickly do an enormous amount of damage if they are not promptly dealt with. I have found partially picked bones placed in their haunts very useful, for while the pests are preying on the meat, the bones can be quickly thrown into hot water. The bait must be dried before using a second time. Very serviceable are pieces of sponge squeezed tightly in the hand, and then immersed in treacle, and while there liberated slightly, so as to fill the sponge. These prove attractive to the ants, which quickly swarm over and inside the sponge, and can readily be destroyed by putting the whole in boiling water. The operation can be repeated as is deemed necessary by the grower.—A.

— For getting rid of ants, Mr. C. H. Fernold, of the Massachusetts Experiment Station, recommends the following: Make holes with a crowbar or convenient stick from 6 inches to 1 foot deep and about 15 inches apart over the hill or portion of the lawn infested by the ants, and into each hole pour two or three teaspoonfuls of bisulphide of carbon, stamping the earth into the hole as soon as the liquid is poured into it. The bisulphide of carbon at once vapourises and, permeating the ground, destroys the ants but does not injure the grass. One should remember while using this substance that it is highly inflammable, and no flame, not even a lighted cigar, should be brought near it.

— DEUTZIA GRENATA.—This is the correct name of the handsome shrub which goes under several specific names, such as *D. scabra* and *D. Fortunei*. It is a tall, robust-growing species, native of Japan. Its propagation is of the simplest nature. Moderately thick shoots of the previous summer's growth, taken off as soon as the leaves fall, and heeled in out of the reach of hard frosts till spring, cut in lengths of about 6 inches and boxed in sand, will root in a gentle heat. Good-sized cuttings of the same wood put in deep boxes of soil, shaded and brought on gradually until rooted, can be left in these boxes all summer, shaken out and planted in rows in the autumn. There are double white and pink tinted varieties which are very desirable.

— STIPA PENNATA.—I have in my room, standing in an epergne, a handful of this very beautiful and graceful Grass. Seeing how charming it is for room decoration, probably the most graceful of all such Grasses, it is surprising to find it so seldom in gardens. Messrs. Cannell & Sons employed a quantity of it in the cut state to dress a stand of flowers at the Drill Hall a few weeks since, and mine was from their stock. The variety is a hardy perennial, and is grown largely on the Eynsford seed farm for cutting in this way. Portions may be used at once, and it will keep well for a long time in a room, whilst other portions put away in paper may be had as desired.—WANDERER.

— AMERICAN MULBERRIES.—Reading the note published at page 86, last week, taken from "American Gardening," I could but think that they either order the ripening of Mulberries in the United States differently from our practice, or they have varieties that fruit very much earlier than ours do. No doubt British gardeners would smile at the suggestion that we should plant Mulberries, on the fruit of which when ripe birds should feed, rather than on Strawberries and Cherries. Our fruits of these kinds are over and gone long before Mulberries ripen with us, and I rather think such is the case in America. The best plant to have in quantity for such protective purpose I know of is the *Mahonia aquifolia*, as that ripens its berries fairly early, and I have known close to the Middlesex gardens, where Morellos were largely grown, that so long as there were ripe *Mahonia* berries not a Cherry was touched by birds.—A. D.

— ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Floral meeting of the Royal Horticultural Society will be held on Tuesday, August 23rd, in the Drill Hall, James Street, Westminster, 1 to 5 P.M. A lecture on "Perpetual Fruiting Strawberries" will be given at three o'clock by Mous. Henri de Vilmorin.

— RECREATION GROUND FOR ST. ALBANS.—We learn that Mr. and Mrs. Charles Woollam have given a recreation ground to the St. Albans City Council for the use of the inhabitants. The land, which is near the centre of the city, is 7 acres in extent, and is a most valuable gift. This is the second recreation ground presented to the city, the Clarence Park having been handed over to the Corporation by Sir J. Blundell Maple, M.P., four years ago.

— DR. MORRIS.—The Colonial Secretary, says the "Pall Mall Gazette," having appointed Dr. Morris to organise the new Botanical and Agricultural Department for the Windward and Leeward Islands, the post of Assistant-Director of the Royal Gardens at Kew becomes vacant towards the close of September. So far as can be ascertained, it seems doubtful whether the vacancy thus created will be filled up for some time to come. The assistant-directorship is worth £700 per annum, and Dr. Morris goes out to the West Indies at an initial salary of £1000 per annum, exclusive of travelling and other allowances. We have only to add that Kew loses a most excellent official, and Dr. Morris will enter on his new and important duties with the best wishes of all his friends.

— GRIMSBY FLOWER SHOW.—On Thursday, August 4th, the Grimsby Horticultural Society held its fourth annual show in the People's Park, Grimsby. The exhibits surpassed those of previous years for quality, and the number of entries was much larger. Altogether there were 162 classes. The chief objects of attention in the show were three large groups of miscellaneous plants arranged in the centre of the tent. Mr. T. Campbell secured the first prize and the special award of a silver cup given by Mr. George Marshall, President of the Society. Mr. J. Robinson took the second prize, and Mr. G. Needham the third. The Grimsby Parks Committee, who had a large number of exhibits, won a special prize for a table space of miscellaneous plants. One of the chief attractions of the day was a floral fête and parade.

— GOOSEBERRIES.—The really wonderful collection of these hardy bush fruits, the finest and most comprehensive yet seen, which Messrs. Jas. Veitch & Sons, Ltd., staged at the last Drill Hall meeting, should have done something to stimulate Gooseberry culture for dessert purposes. In private gardens these fruits are more grown than formerly was the case, and not only in bush, but also in cordon form. But in market gardens only certain popular varieties are found, and the beautiful yellows and greens, especially the small high-flavoured ones, rarely find a place; the public therefore have no opportunity to purchase them. The varieties that are classed as white, and some as yellow, are not pleasingly coloured; but there are real gold in yellows, and rich clear green as well as the rich reds, that are when ripe singularly attractive. We have no hardier, more constantly productive, more wholesome fruits than are clean well-ripened Gooseberries.—D.

— WINTER ONIONS.—It seems like preaching to the wind to attempt to check in any way the traditional habit of sowing Tripoli or Italian Onions solely in the autumn. How much even gardeners are creatures of habit or tradition is shown in our methods in relation to Onions. I have for some time, when opportunity has offered, advised the sowing of good hard Onions, Spanish or Globe, such as are commonly sown in the spring, instead of the soft and soon decaying varieties that are usually sown. Almost invariably in gardens or on allotments, where, as a rule, winter Onions are remarkably fine, the usual varieties are Brown, Red, or White Tripoli, some round, some flat. These Onions come very fine indeed, but they are soon useless, and immense quantities must annually be wasted. When judging some allotments at Epsom recently I saw for the first time, out of nearly 350 cases, that fine summer Onion, Ailsa Craig, had been sown in place of Tripolis the previous autumn, and the bulbs thus produced were the finest of of all I had seen in Surrey. When some ten days later the best of these bulbs, about 1 lb. each in weight, were staged at the local show, they beat all others, even some remarkably fine Tripolis, easily. The stock was, I learned, from Messrs. Sutton & Sons, and certainly it was a very fine one. Now here is a fact that thousands of Onion growers should take to heart. Whilst the Tripolis were ripe the Ailsa Craigs would continue to grow for yet fully six weeks, and then would produce grand bulbs. Who can doubt but that were stocks of our finest Excelsiors, Exhibitions, and Lord Keepers, sown in the autumn in the same way, that superb bulbs would be produced.—A., Kingston.

— **DEATH OF MR. PULHAM, SEN.**—It is with deep regret we have to record the death of Mr. Pulham, head of the firm of Pulham and Son, on Thursday last, 11th inst., after a week's illness. The funeral took place in Broxbourne churchyard on the 15th. We are informed that the business will be carried on as usual, and in the same name. The deceased was seventy-eight years of age.

— **SHIRLEY GARDENERS' ASSOCIATION.**—The monthly meeting of the above Society was held at the Parish Room, Shirley, Southampton, on Monday, 15th inst., Mr. W. F. Mayoss presiding; but owing to the hot weather there was not a numerous attendance. A most interesting and instructive lecture was given by J. H. Aldridge, Esq., M.D., J.P., on "Farm and Garden Insects: Their Relation to Flowers and Crops," which was illustrated by a number of lantern slides.

— **CATERHAM GARDENERS' OUTING.**—On Wednesday, August 3rd, Caterham gardeners, to the number of forty-seven, paid a visit to Boxhill and Burford Lodge, Dorking, where Sir Trevor Lawrence escorted them over his beautiful grounds, and through his glass houses, in which are accommodated one of the finest collections of Orchids in existence, with many other rare and beautiful plants. Not many of the Orchids were in flower, but they were still interesting to those who know the value of many of the rarer forms of which Mr. White has charge. After the party had partaken of refreshment, Mr. Jeremiah Lyon addressed the company, and offered the best thanks of the Caterham Horticultural Society to Sir Trevor and Lady Lawrence for their kind reception. In his reply, Sir Trevor said that to him it was a genuine pleasure to see there anyone interested in gardens and gardening, and he was glad to be able to welcome them there. Mr. Jeremiah Lyon generously paid all the travelling expenses of the outing, which was both an enjoyable and a profitable one to those taking part in it.

— **THE OUTLOOK FOR CANADIAN FRUIT.**—It would seem from the reports published in the daily press recently that the prospects for a big crop of autumn fruits are not very bright. The Peach crop is being injured by a new pest; the Apple crop will not be much larger than last year, and the supply of fruits generally will fall short of other years. In some cases it may be possible to foretell so far ahead what the output will be, but we fancy that in some instances the crop may be larger than is now hoped for. There has been an impression abroad for some years that the reports published at this season of the year, which are never over-sanguine, in regard to fruit, are for the purpose of influencing the market. We can recall seasons in the past when very discouraging reports would come in the early summer regarding the Peach crop, but when the Peach harvest arrived there would be baskets of that fruit galore at prices suited to the purse of the poorest. This has occurred so frequently that the public is somewhat at a loss whether to believe everything one hears at this season of the year in regard to these poor prospects. However, it may be that this season is an exception, and instead of abundant crops of Apples and Peaches, which are due this year, the supply may be very much limited. Last year the Apple crop was a poor one, and if this year we have an additional poor crop, the possessor of a large orchard with trees loaded with the luscious fruit will be fortunate.—("Farming," *Toronto*.)

— **THE OAK AS AN ORNAMENTAL TREE.**—The great popularity of the Oak for ornamental purposes during the past three years is one of the marvels in American gardening. Fifty years ago, the one who should recommend the Oak was recorded as a dreamer—at least, so says Mr. Meehan. It is said they grow too slowly, and it is contended that it is impossible to transplant an Oak successfully. But it is now found that they transplant as readily as any other tree, and, indeed, are much more successful than some trees that were formerly so popular; and as for growing slowly, some of them progress remarkably in this respect. Under favourable circumstances, a large number of species of Oak will be 30 or 40 feet in height in twenty-five years. There are very few trees, aside from Poplars and Soft Maples, that can do better than this. They have many advantages which some trees, formerly more popular, do not possess. There is a variety in the growth of the trees and the forms of the foliage. The splendid colour of most of them in the autumn of the year gives them a special charm. Some have bright golden leaves in the autumn, and various species of the Chestnut Oak division are of this character. Of the bright-coloured-leaved class, we have the White, Red, Scarlet and Pin Oak. In many other valuable points, the Oak has come to be recognised as desirable. So great, indeed, has become the demand for this class of ornamental trees, that some of the leading nurserymen tell us the demand has exhausted the supply. It goes to show that the people of to-day can be educated to good things, when the things recommended are really good.

— **PUBLIC PARK, WIDNES.**—The first prize of 35 guineas in the public competition for the best design for laying out the Appleton House estate as a public park has been awarded to Messrs. Barron & Son, Elvaston Nurseries, Borrowash. The area of the park is about 36 acres, and in addition to the general plan of the park, which contains a lake, cricket and recreation grounds, lawn tennis ground, bowling-green, and gymnasiums, they also furnish three alternative plans for dealing with Appleton House and premises, also designs for entrance gates, band stands, shelters, and fountain.

— **WINTER SPINACH.**—Two or three sowings of Spinach for winter and spring use require to be sown in August and September. The first sowing may be made now, the second at the end of the month, and another before the middle of September. Sow in drills in all cases, as it is necessary to clean and hoe the soil frequently in order to promote growth. Drills should not be less than a foot asunder, the first two sowings a wider distance. Grow these crops on good fertile, but not heavily manured, soil, which will induce a rapid succulent growth desirable in summer, but not advantageous in winter. The Prickly Spinach is usually considered the best for present sowing, but there is really little difference between it and the round-seeded variety. Both might be sown and the results noted for future guidance. Seed should be sown more sparingly than is the case in summer. When the plants are crowded they are certain to succumb to frost and damp. However, if the seedlings come up too thickly they may be thinned gradually as they approach each other, always carrying it out in good time. Keep the soil loose on the surface between the plants, and rigidly exclude weeds.—E. D. S.

— **STOCK CARTER'S AVALANCHE.**—When on a visit to Mr. Pettigrew, The Castle Gardens, Cardiff, I met with much to admire, and in particular was greatly impressed with the beauty of four circular beds, measuring 10 feet across, wholly planted with Avalanche Stock. I have never seen anything of the kind to equal that display of white Stocks, and quickly arrived at the conclusion that it was one of the good things I had missed hitherto. The seed was sown in gentle heat early in February, and the plants duly prepared in boxes for moving into the beds some time in May. When I saw them, about the third week in July, they were a mass of bloom. Large numbers had been cut, boxes were filled with spikes while I was there, and yet no serious gap appeared anywhere. Mr. Pettigrew speaks highly of it for pot culture. If the seed is sown early in the autumn the plants will flower in an ordinary greenhouse during March and April.—W. IGGULDEN.

— **RIVIERA FLOWERS.**—We learn from a contemporary that at San Remo the flower industry continues to increase, and more and more Olives are cut down each year to make way for Carnations, Roses, and to some extent, Vines, especially where ground is available within reach of the high road, so that water for irrigation can be obtained from the mains of the water company. But the flower cultivators complained that owing to the warm summer and continued fine weather of 1897, many of the flowers were ready in advance of the market, and that, therefore, the prices realised were too low to be thoroughly remunerative. At Bordighera the flower trade suffered from enormous over-production, which was specially marked in the autumn of 1897, when the continuous warm weather brought on the flowers very rapidly. The record quantity of flowers sent away from Bordighera in one day was on December 20th, 1897, when 1426 kilos. were despatched. Prices ruled high in the winter, owing to the scarcity of Roses caused by the trees being exhausted by the excessive flowering in the autumn. Carnations continue to be planted in large numbers.

— **HAIL IN CHICAGO.**—America has many records, and now claims the heaviest hail storm. The "American Florist," for July 30th, says, "On Thursday evening Chicago was visited by the heaviest hail storm on record. The icy pellets were of almost incredible size, fully sufficient to perforate greenhouse roofs, but fortunately the storm extended over a belt only a couple of miles wide from north to south. It swept the west side of the city and a part of the north side, being most severe in the vicinity of West Madison Street, where Mr. H. Schiller lost nine-tenths of his glass. His greenhouses in the country were outside the storm belt. Mr. H. N. Burns, at 690, West Van Buren Street, was a heavy loser. Not only was much of his glass broken, but many valuable plants were beaten down. Messrs. Nelson Swain & Sons, Paulina Street and Chicago Avenue, lost most of their glass. Mr. E. Wienhoeber was one of those whose houses suffered the greatest damage. He has 14,000 feet of glass, and nearly half of it was broken. At Garfield Park the hail demolished the glass in the conservatory. Mr. H. F. Halle was another heavy loser, and Vaughan's greenhouses at Western Springs lost over 3000 panes of glass."

GRIMSTON PARK.

THERE are few estates in Yorkshire that are more celebrated than Grimston Park, the home of Mrs. T. Fielden, which is situated some eight or nine miles south of York, and in close proximity to Tadcaster. There, for upwards of a score of years, Mr. H. J. Clayton, than whom no gardener is better known and more respected north of the Trent, has had charge, and it is to his efforts that the estate owes its reputation from a horticultural standpoint. Not that it is new and has been wholly planted by Mr. Clayton. Such is by no means the case, for the mansion was erected and the gardens laid out many years ago for the then Lord Howden, Nesfield having charge of the latter. There is a peculiar antagonism in the features of Grimston, formal gardening and architecture and statuary standing in opposition to grand trees, shady walks, sylvan glades, and splendid park scenes for the premier place. As to which should come first depends on the taste of the visitor, who may

This statue is reproduced in fig. 22, page 123, and we think everyone will admire the beauty of its lines, although these are not improved on by the camera and the reproduction for printing. Most readers of the *Journal of Horticulture* will be conversant with the story hinted at in a previous sentence, but those who are not will have so little difficulty in finding it in any library, that it will be unnecessary for it to be given here. This work of art occupies a prominent position on the terrace close to the conservatory, and is one of the flower garden's handsomest ornaments. Another very remarkable feature, and one which must be comparatively rare, is what is known as the Emperor's Walk. It is so named because on each side is a row of pedestals on which stand busts of the Roman Emperors. These are beautifully carved in marble, and each one bears the name of the potentate it represents. So admirable is the skill of these that one may read in the faces of some of them an idea of the characters of which they were possessed. In all the statues number about twelve, and it will be remembered that this is about one-fifth of the Roman



FIG. 23.—ENTRANCE GATES, GRIMSTON.

be confident that excellent examples of all, besides other features, will be found within the precincts of Grimston Park.

The style of architecture in the building of the mansion is wholly Italian, as are the gardens, as may be seen from the several handsome statues. These latter are mostly in marble, and the workmanship is so exquisite, that even though one may not be an enthusiast of such work, he is compelled to admire their beauty. At every turn as we traverse the gardens appears statuary, some of it being of immense value. Of the terrace garden we shall say more, but must now revert to the mansion, which has been most skilfully sheltered from the heaviest winds by tree planting, the belts and groves now having a most handsome appearance. Supported on great columns in the front of the house is a balcony garden that, draped with flowering and foliage plants, is very beautiful and somewhat of a novelty. Stone vases for plants about the garden and for ornamentation of the mansion without further garniture are numerous, and in cases very beautifully carved.

Probably the handsomest of the statues is the superb representation of Europa, round which heathen mythology weaves a charming story.

emperors whose names are written so boldly in the history of the world, and it is needless to add that those represented were amongst the most celebrated. But there are two other figures which go to complete the walk. One represents Adam, who will be accepted as one of the first emperors of the world, while the other is Napoleon the Great. We may therefore take the Emperor's Walk as illustrative of three epochs of history, the first commencing with Adam, the second with the rise of the Roman Empire, and the third with *Le Petit Caporal*, as the Old Guard loved to call their Emperor.

It was becoming dark when I first entered the park at Grimston, and the grand trees will long be remembered. Just within the gates from Ulleskelf Station stands the church, an edifice that would find a host of admirers, and whence a winding walk led to the gardens and the mansion. It was a delightful evening, and the way was rendered more enjoyable by the conversation with Mr. Clayton. Entrance is made to the garden after passing an immense bank of Laurels trimmed so that their tops are practically as level as a table. Just at this time of the day, when the trees are all wearing their rich mantle of green, and almost every plant

in the border is putting forth its beautiful flowers, the banks of Laurels are apt to be overlooked. Not so after the sweltering heat of the dusty roads, then one can and does look upon them and feel as if some of their freshness and coolness had been reflected upon oneself. In the winter, too, they are sure of appreciation, for then there are by no means too many plants, shrubs and trees that retain their leafage to cheer us through the dull and dreary days. Their extent is enormous, and the amount of care requisite to maintain them in such an excellent state must be very great. Certainly they could scarcely be smoother, even if it were possible to pass a mowing machine over the whole of them. There were apparently several varieties, but we particularly noted *caucasica* and *rotundifolia*.

All the admiration of the visitor must not be expended on the mansion and the statuary, for there is much beside that will enforce attention as the grounds and gardens are traversed. For examples,

certain amount of reflection on to the garden, which is formal too, and so skilfully has it been laid out that it is in perfect keeping and harmony with its surroundings. The stone edgings have an old-time look about them, and the simple plants with which the beds are filled are admirably chosen for the purpose. Standard Roses are very numerous, and add to the general charm. These beds are on the south front of the mansion, as shown in the photographic illustration (fig. 24), which was taken from the cricket ground in the immediate foreground of the picture, and also on the left-hand side, and many hundreds of plants are required to stock them. To the right as one faces the mansion lie the vegetable gardens, while the left leads to charming pleasure grounds and delightful walks. At the end of the terrace walk, and dividing, as it were, the formal from the informal grounds, stands a magnificent Sycamore with a seat beneath. It is one of the handsomest trees of its kind that it has been my lot to see. The main entrance gates, on the north side, are singularly handsome, as may be seen in the reproduction,



FIG. 24.—GRIMSTON HOUSE.

the arboricultural beauties are numerous, coniferous trees being grand and very diverse in form and stature. It was not proposed to give a list of them, so no notes were made; but the handsome specimens of *Cupressus Lawsoniana*, *Cryptomeria japonica*, Piceas in variety, with several others, as well as Scotch Firs, Corsican Pines, Oaks, Sycamores, Beeches, ancient Thorns, Acers, and Copper Beeches must be specified. The latter form one of the features of the estate, for they are exceptionally rich in colour, and many of them of noble dimensions. In some positions, where there has been room for development, the specimens are superb. Near to the mansion, and flanking the Emperor's Walk, the belts of trees are excellent, and it is here that the Copper Beeches are seen to the best advantage. On the boles of some of the older trees, especially the Firs, Ivy was luxuriating, and this alone added interest and variety where there was already so much to demand more than a cursory notice.

Reverting to the garden adjoining the mansion we are able now to give it more than a passing word, for it is worthy of attention. As might be expected, the Italian formality of the mansion has thrown a

fig. 23. Broad sweeps of grass flank the drive up to the mansion, but there are no beds. The view from this side of the mansion over the meadows below is of great beauty, and exceedingly interesting to those who admire pastoral scenery.

To say that borders of herbaceous flowers are extensive, that bulbs are planted by thousands in the grass, that shrubberies abound where clumps of Solomon's Seal and other plants luxuriate, and that flowering shrubs are appreciated, will be superfluous. No garden such as that at Grimston could be complete without them, and needless to say these, like all the other most prominent features, are thoroughly good. The broad borders of herbaceous plants are not allowed to become wild, but are by timely attention kept in the best possible condition, both for looking well and for providing bushels of flowers for cutting. The selection of plants is choice, and it is easy to see that they have been chosen by one who knows and acknowledges the charms of herbaceous and shrubby biennials and perennials. In the belts of shrubberies there are Rhododendrons, Lilacs, Laburnums, Viburnums, Thorns, rambling Roses, and Philadelphus, besides others, while the Narcissi in the grass must be lovely

indeed during the early months of the year. Unfortunately they had finished blooming when this visit was paid, but vestiges of their beauty still remained.

Encircling the kitchen and fruit gardens are walls on which fruit trees find a place, and are, like everything else, thoroughly tended. Some have been there very many years, as have several espaliers by the walks; but they still have to do their share towards the maintenance of the annual supply. Apples, Pears, and Plums in the open, as well as the two latter, and Peaches and Nectarines, and Apricots on the walls, are almost all in good health, though some are so aged that their days of vigour have long since passed away for ever. They are old friends that have done valuable service in days gone by, and it doubtless goes somewhat against the grain to destroy them now. The main principle that is kept in view in training both wall trees and others is to allow every shoot plenty of room, and this, in all probability, largely accounts for the fine crops that have from time to time been secured. Currants, Gooseberries, and Raspberries also occupy a considerable amount of space in different portions of the garden, as do some grand beds of Strawberries, amongst which the bold leafage and flowers of Royal Sovereign are readily observable. Many varieties are grown out of doors as well as in pots, and the variety named is one of the prime favourites with Mr. Clayton, as it indeed appears to be with most other growers.

Commensurate in size and equipment with the other departments of the garden are the vegetable quarters, whence have been taken during the past few years some grand examples of culture. Excellence at Grimston means more than mere size of individual specimens—it is synonymous with bulk as well as first-class quality. As everyone knows what crops will be found in a fully stocked vegetable garden at the middle of June it is useless to specialise them all. The sections of Peas were particularly good, and admirable returns would be secured from the many healthy rows of plants. Potatoes, again, were grand, and the early varieties were yielding capital tubers in considerable numbers. Every effort is made to insure the best results; the soil is worked as thoroughly as can be, this being placed almost on a par with the addition of the necessary foods. No space is wasted; every portion of the ground must bring forth its share to make up a highly creditable return. Year after year the produce must be heavy, and only by close attention to cultural details could such results as are attained to be insured.

In speaking of fruits under glass we feel constrained to give pride of place to the Vines, which, young and old, are alike magnificent. Not one house alone is good, but all of them; early, midseason, and late were producing splendid crops. There are Vines of Hamburgh, Muscat of Alexandria, and others in abundance, all in the very best condition. It is, however, on his culture of Alnwick Seedling that Mr. Clayton most prides himself, and he has reason, for probably no one secures better results with this variety. He is most emphatic in his praise of the variety as an enormously heavy cropper of fine berries, making up shapely and clean bunches. Some growers say it is inferior in flavour and a bad setter, but at Grimston it is neither, for there is the crop, while when fully developed the flavour is very fine. If there be any secret in the production of this Grape we may rest assured that Mr. Clayton is "in the know." Let it not be thought that because such unstinted praise has been accorded to the Grapes that Peaches and Nectarines are inferior. This is by no means the case—indeed they are as good in their way as the Vines. The trees are as clean and healthy as anyone need wish to see them, and their capabilities were proved by the crops they were carrying when this visit was paid. Melons, too, are well grown, but enumeration of these and others can be nothing more than repetition where all is excellent.

Plants and flowers under glass receive the attention that is due to them for their value as cut flowers or for decoration. There are Ferns and Palms, Orchids, and all kinds of flowering plants in the highest condition, and no prettier houses could be found. They are not pretty because they are modern in construction or artistically painted; neither of these is the case. The reason they are so picturesque is simply on account of the arrangement. On the central and side stages are fine plants of various kinds, while creepers depend from the roof, but these are shown off as it were by the under portion of the stages having been built up in front with stone. This has been done for several years, and growing on this rockery beneath almost, if not quite every stage, are Lycopodiums, Ferns, Rex Begonias, Panicum, Tradescantias, and others, and their beauty can be realised, but it certainly cannot be described. This arrangement undoubtedly adds 50 per cent. to the attractiveness of the structures. Though it is not professed that a speciality is made of Orchids, the Cattleyas, Pleiones, and Calanthes are in grand condition, as are the other kinds grown. Ferns are grandly grown, as are the several kinds of foliage plants, which are valuable for the embellishment of the mansion.

In these notes no attempt has been made to give more than a cursory glance at Grimston Park, but it must suffice. It was my first visit to Mr. Clayton, and nothing could have been more enjoyable or more appreciated than his kindness (with that of Mrs. Clayton), and a sight of the good work that he has done is more than sufficient reason for his high reputation as a gardener—a reputation that places him amongst the best in the land.—H. J. WRIGHT.



ROSES AND RAIN.

THE recent weather, which, in Scotland at least, has been dominated by electricity, while sufficiently favourable to the growth of plants has been very destructive of their flowers. Roses have been developing with great rapidity; but what of that, when their blooms damped off as soon as they appeared? There are certain varieties which, however "impressive," have this serious limitation—that they are extremely susceptible to the influence of rain; conspicuous among these is Marchioness of Londonderry, which is well worth protecting for the preservation of its magnificent blooms. Those Roses which are not quite so susceptible have nevertheless their necks very badly twisted by the weight of the floods, and are thus rendered useless for garden ornamentation. Lilies also have suffered considerably, especially *L. candidum*, and fortunately for themselves, *Lilium auratum* and *L. longiflorum* are not yet in bloom, and the period of flowering of the fragrant *Lilium speciosum* is yet far away.

[Had our correspondent been growing Roses in the south of late his trouble would have been in their withering through the heat, not damping by the rains.]

A NEW SCOTTISH ROSE.

"FAIR HELEN" is the name of an interesting white sport from Mrs. John Laing, obtained (I believe that is the orthodox expression) by Messrs. T. Smith & Sons, Stranraer Nurseries, Wigtonshire, who have more than once been successful in winning at Helensburgh medals of the National Rose Society. Fair Helen, which has not yet been introduced into cultivation, has nevertheless had the privilege of being successfully exhibited at the Edinburgh Flower Show, where it received a first-class certificate from the Scottish Horticultural Society. It will doubtless prove an important acquisition if, in addition to its pure white colour, it has the precious attributes of Mrs. John Laing, one of the most reliable varieties within the range of my acquaintance—DAVID R. WILLIAMSON.

ROYAL HORTICULTURAL SOCIETY.

AUGUST 9TH.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair); Mr. Bennett-Poë, Rev. W. Wilks, Mr. Marshall, Rev. G. Henslow, Hon. Sec., and the following visitors:—Prof. J. Bailey of the University, Ithaca, N.Y., Herr J. K. Budde, Curator of the Botanical Gardens, Utrecht, and Mr. Gordon.

Tomato with Red and Yellow Fruit.—Mr. J. McLean, Luttrellstown, Clonsilla, Co. Dublin, sent some golden yellow fruit, with the following observations:—"The plant which produced them is one out of 145 Frogmore (red) selected. The first cluster produced the true red sort, but on the same plant three trusses consisted of yellow fruit, as sent." Prof. Bailey observed that he had raised yellow-fruited Tomatoes from the seed of red-fruited plants, but had not seen a case resembling the present one, in America; though he had known a cutting of a red-fruited sort to bear yellow fruit, as well as a red fruit being striped with yellow.

Scolopendrium var.—Mr. Marshall exhibited a plant raised from a frond. This was remarkable for its great size, being quite a foot broad, and terminated with numerous barren subdivisions. It was buried, leaving the latter only exposed. Roots were formed at the bases of the incisions, so that five plants were raised. Of these two repeated the remarkable fronds, two reverted to the wild form, and the one exhibited bore four fronds with digitate extremities, one frond with a crisped margin, one being flat as in the wild state. The first two will, it is hoped, establish a new race.

Tomatoes with Supernumerary Carpels.—Dr. Bonavia sent two specimens; one, consisting of four carpels, which, instead of being coherent to form a single fruit, were only united at the base, and therefore nearly apocarpous. The other had several extra carpels issuing out of the centre above. These formed a whorl of carpels, in addition to the normal series. It resembled the "Mellarose Orange" in this respect.

Poppy-head, with Pistillody of the Stamens.—Herr J. K. Budde exhibited a fruit of *Papaver somniferum*, with a complete whorl of miniature heads around the base; these being metamorphosed stamens. This peculiarity is well known; but it is interesting to hear that Prof. de Vries has succeeded in fixing it by selection, so that this monstrosity now comes true by seed. A similar phenomenon is common among Wallflowers. With reference to hereditary monstrosities, Mr. Bailey observed that a species of *Echinops*, with a fasciated and twisted stem, as also the spirally twisted variety of the Fullers' Teazle, can be now perpetuated by seed. Mr. Henslow inquired if the Weeping Ash was known to be perpetuated by seed, as of thousands of seedlings in his garden at Ealing, none ever showed any inclination to weep; though the late Prof. J. S. Henslow found a slight tendency to weep to exist for two or three years in his

experiments at Hitcham. At the plants grew erect afterwards. Mr. Wilks observed, on the other hand, that a young tree a few years old at Shirley had begun to show a tendency to weep.

Crassulaceous Hybrid.—Mr. Veitch sent trusses of flowers of a new hybrid, raised by Mr. Seden, between *Kalosanthes coccinea* (female) and *Roclea falcata* (male). The flowers of the hybrid were small, as in the female parent, but the colour approached that of the male. In many points it was intermediate between the two parents.

Cattleya granulosa, Dimerous.—Dr. Masters exhibited a blossom with its parts in twos, there being two large sepals, two lips, &c.—not a rare phenomenon in trimerous flowers, as *Iris*, &c.

Hybrid Nymphæas.—Dr. Masters exhibited several kinds, with the purpose of calling attention to the different arrangements and numbers of the lacunæ in the stems of the flowers and in the petioles. He observed that the *Nymphæas* could be grouped by means of them, and proposed to make a further examination.

Plymouth Strawberry.—A specimen was received from Mr. J. Arrow-smith, of Bank Road, Glazebrook, Manchester. It is a monstrous condition of the ordinary fruit, in which some of the achenes are replaced by leaves, as in the well-known Alpine Strawberry, of which the present case is a variety. It was described by Ray, who gave the name, having received it from Plymouth. It resembles the green Rose, in thus having its floral organs more or less in a state of reversion to leaves.

Strawberry Plants Defective.—Some plants were received from Mr. J. Lyne of the Gardens, Foxbury, Chislehurst, in which the crowns were generally blind. The variety is Royal Sovereign. Mr. Lyne writes:—"Last autumn we planted a bed of last season's runners, with the object of getting early runners this year. They grew well, and made a fine lot of early runners. All trusses of bloom were picked off the parent plants as soon as they appeared. The runners were layered four in a 6-inch pot, and all rooted well; but last week, when transferring them into single pots, we found about half were blind, the crowns being brown within. A healthy plant would be often growing in the same pot with defective ones." Perhaps some growers of Strawberries may have had a similar experience, and can throw some light on the mystery. Sections of the crown buds revealed no visible fungi nor insects, but the scales were turning brown from the exterior part inwards, apparently suggestive of an external source of the mischief.

AUTUMN-SOWN ANNUALS.

FROM the middle of April to the middle of June is always my worst time in the flower garden, whether its ornaments be planted in masses or in the mixed way. Annuals are uncertain in the summer, as we all know, and few people like to trust to more than a very few kinds of them for keeping the beds full for any length of time. When the beds and borders of a mixed flower garden are renovated in the spring, and all the established plants have sticks or labels set to mark the places, spare ground ought to be immediately filled with the different kinds of annuals that were sown in September. They are easily removed and replanted, and coming into flower just at the time we are most in need of their aid, it is our own fault if we do not take advantage of them.

Like all other plants, annuals sown in the autumn are liable to be injured by the weather. A very mild and late autumn is much against them, because they grow too rank, and are liable to be cut off by a very severe winter. The soil should be light and poor, and the situation an open airy spot, away from where fallen leaves are likely to gather in heaps by the wind. This gathering together is the very worst thing I know for any seedlings; for if such quantities of leaves rest on the seed bed for a week, the seedlings are either smothered or made so tender and blanched that the first dry wind or cold night finishes them. The soil should not be dug more than 3 inches deep, and the seed must be sown thinly; a rich soil is likely to encourage the seedlings to grow too fast and bulky, and so make them more liable to be cut with frost; and if they are thick in the bed, the one helps to draw up the other too weak and spindly. Like many other causes of success in gardening, attention to these little matters is more essential than great skill or practical knowledge.

The best thing to cover seed beds in the autumn is one-half light soil and one-half finely sifted coal ashes, from which the very fine dust and the rough cinders are taken; the first few rains will wash down all the finer particles of this compost for the roots to work in, and the surface is left gritty and porous, so that the stems and collars of the seedlings have free air and elbow room, instead of being packed in a sour crust of rank earth, as would be their condition if they were sown on a rich, strong soil. A west aspect is by far the best for them, as then they are less liable to suffer from hard frosty nights, followed by very sunny mornings, or what we call extremes of weather. New seed of many kinds of annuals is not so good to sow in the autumn as old seeds, because the newer the seeds the stronger and healthier the seedlings, and therefore the more liable to suffer from a hard or long winter.

Red and white *Clarkias* are well worth growing, and no winter kills them when self-sown. *Collinsia bicolor* and *C. grandiflora* are the two best of that family; they also are hardy enough to stand most winters. The yellow *Eschscholtzias* are perfectly hardy if sown in September; if they are to be transplanted, it should be done when they are quite young. The blue and spotted *Nemophila insignis* and *N. maculata*, also *N. atomaria*, pass over almost any winter, and come into bloom before April is out. *Eucharidium grandiflorum* ought to be grown, and the plants stand a severe winter. *Godetias* are as good as they are gay, and they will be the brighter in flower, and more manageable if they are

planted in poor soil rather than rich; but, recollect, it poor, it must be deep and well worked. Stunted growth is quite a different thing from subdued growth caused by sandy soil well tilled. The flowers of all the *Godetias* show brighter when the plants are in this subdued growth. *Gilia tricolor* is hardy and very attractive; this and *Collinsia bicolor* are the two best lilac flowers.

Erysimum Peroffskianum, when sown in September, planted out in the beginning of March, and trained down to the surface of the bed as it grows, comes into bloom at the beginning of May, and lasts till midsummer or longer, and so treated makes one of the finest beds ever seen in May. A second sowing of it the first week in April, and again about the end of May, would carry it right through the season till the frost came. Six or seven plants of it put into pots about the new year would come in finely for the greenhouse in April; but it will not stand forcing—the protection of a greenhouse or pit is as much as it can safely endure. *Lasthenia californica* and *Limnanthes Douglasi* are two yellowish kinds, which are grown for making up this colour in May. *Bartonia aurea*, a beautiful clear yellow flower on a weedy looking plant, sown now, and transplanted into very poor, light soil early in April, will flower in May, and be much better than under any other treatment. *Leptosiphon densiflorus*, a very dwarf lilac, or purple-and-white-mixed flower, stands the winter well. *Lupinus nanus* has quite a different character when allowed to grow on slowly all the winter. It blooms from May to the middle or end of August from seeds sown about the middle or end of September, provided the plants are not allowed to ripen any seeds. Another sowing, about the first week in May, would carry it on to the middle of October. *Silene pendula*, *S. compacta*, *S. Schafta* are the pick of the Catchflies, and are always best from autumn sowing. The Virginian Stock flowers in April if sown now, and all the varieties of the branching Larkspur will bloom most part of the summer if sown earlier in September. Cornflowers (*Centaurea cyanus*) should be sown now for cut flowers.—F. G.

BATTERSEA PARK.

MY visit to this park happened to fall on a somewhat cold and dreary day for the holiday month. It was evidently holiday time with the children, judging from the numbers disporting themselves there. One would have thought all the younger generation of London was at play. The whole place seemed one seething mass of small humanity, bent on making as much noise as possible, and enjoying itself in every conceivable way. But my object was not to study the youngsters, but to inspect the plants and flowers growing for the edification and education of the people.

This park has long been celebrated for its subtropical gardening, and the arrangement leaves little to be desired. Although this section occupies premier position, it must not be supposed it does so to the detriment of other classes of flower and ornamental gardening. The huge borders forming a facing to the shrubberies are filled with a variety of flowering and foliage plants, giving the whole place a very bright and attractive appearance. The large beds of succulents arrested my attention, for it is seldom they are seen now in gardens. To say the least of them, they form a very pleasing change, especially when large collections are employed, as they are here, all looking the picture of health.

As in the other parks, the pyramid *Fuchsia* plays an important part in the display. The plants seem to adapt themselves to the London atmosphere to an astonishing degree, the foliage looks well, and they flower freely. *Heliotropes* and dwarf *Lobelias* form a pleasing combination, and hide the lower part of the *Fuchsias*. *Celosias* are effectively employed to brighten up beds of variegated "*Geraniums*" and *Eucalyptus globulus*. Beds of tall *Heliotrope*, with bright *Coleuses* for a groundwork, were also admired.

Cannas are largely used in beds alone, and in association with other plants; they are not flowering yet, but the handsome foliage and strong growth give promise of something good to follow. Castor-oil plants are in great evidence, the coloured form of *Ricinus Gibsoni* being very attractive. Near the Embankment entrance we meet with a very bright piece of conventional bedding, consisting of red *Zonal Pelargoniums*, yellow *Calceolarias*, *Iresine*, *Lobelia*, *Pyrethrum*, and *Echeveria*, and a very gay appearance it presented. Carpet bedding does not form a large feature, still there are some fine beds, as monuments of patience and industry.

The subtropical garden fully maintains the reputation gained so many years ago, and the visitor may rest assured he will find much to interest him in this delightful part of the park. Its immense size naturally strikes one, yet everywhere we turn the Palms, Ferns, and other foliage plants crop up in wonderful profusion. Gigantic Palms, huge Ferns and *Dracænas* seem numberless; while every miniature glade is filled with greenhouse Ferns, looking so cool and refreshing. Here and there Giant Bananas tower above a rich growth of *Solanums*, *Ricinus*, and other foliage plants. Wandering round the lake fresh features meet the eye, till one almost forgets one is in London—in fact, it would be an easy matter to do so if it were not for the continual stream of children. The walks, lawns, and plants are all beautifully kept and cared for, which must involve an immense amount of labour on the part of Mr. F. J. Coppin and his assistants.

The several notice boards displease the eye of the visitor. They set forth the penalties that follow the plucking of flowers, foliage, and so on. We do not find such objectionable boards in Hyde Park or Regent's Park. But I suppose it is necessary here, or they would not be so prominently exhibited. Probably the time will come when young Battersea will have learned to leave the flowers and foliage in their proper places, and so pave the way for the removal of these notice boards.—J. B. R.

HORTICULTURAL SHOWS.

WESTON-SUPER-MARE.—AUGUST 9TH.

A LIBERAL prize schedule attracted a greater number of exhibitors than on any previous occasion, and there was a remarkably fine display of plants, cut flowers, fruit, and vegetables. The arrangements, too, were an improvement on what has been done previously, and the weather being most favourable a good all-round success has to be chronicled. Mr. G. F. Forster and Mr. T. Cox are the Honorary Secretaries, and these gentlemen performed their duties in a highly creditable manner.

The premier class was for twelve stove and greenhouse plants, of which not less than four were to be fine-foliaged. The first prize (£15 15s.) was won by Mr. J. Cypher, Cheltenham, who staged grand specimens of *Kentia Forsteriana* and *australis*, a huge *Latania borbonica*, a large highly coloured *Croton Queen Victoria*, and grandly flowered specimens of *Phœnocomma prolifera* Barnesi, *Stephanotis floribunda*, *Statice intermedia*, *Statice profusa*, *Allamanda nobilis*, and *Ericas Fairriana*, *Irbyana* and *Austiniana*. Mr. W. Finch, Coventry, who had large but none too fresh specimens, and Mr. W. Rowland, gardener to W. Brock, Esq., Exeter, whose flowering plants were much the freshest, were placed equal second, the fourth prize going to Mr. W. Vause, Leamington, one other exhibitor staging creditably. With six flowering plants Mr. Cypher was first, Mr. W. Rowland second, and Mr. W. Finch third, all showing in good style. For fine-foliaged plants Mr. Cypher was again a good first.

Orchids, four in number, were shown by two exhibitors only. Mr. Cypher was first with good-sized, well-flowered specimens of *Cattleya Gaskelliana*, *Cattleya gigas*, *Lælia crispa*, and *Vanda cœrulea*. Mr. J. Brooks, gardener to W. M. Appleton, Esq., Weston-super-Mare, was second. Cockscombs were numerous and good. Mr. G. W. Shelton, gardener to W. K. Wait, Esq., Clifton, was first, and Mr. T. Wilkinson, gardener to the Rev. Talbot Greaves, Stoke Bishop, second. The best *Begonias* were shown by Mr. W. Summerhayes, gardener to H. Pethick, Esq., Weston-super-Mare, and Messrs. W. Brooks & Son, Weston-super-Mare; second prizes going to Mr. F. Williams, gardener to R. Cox, Esq., Weston-super-Mare. With *Gloxinias* Mr. Summerhayes was first, and Mr. J. Brooks second. *Petunias* were seen at their best, and the principal prizewinners were Messrs. J. Day, gardener to Colonel Armstrong, and W. Brooks & Son.

A good display was made with Zonal *Pelargoniums*, and the prizes went to Mr. W. Summerhayes and Messrs. W. Brooks & Son. *Adiantums* were well shown by Mr. G. Hallett, Bath, who was first, closely followed by Messrs. W. Brooks & Son. For a collection of hardy Ferns Mr. R. Larcombe, gardener to J. P. Capell, Esq., Weston-super-Mare, was first, and Messrs. Brooks & Son second. The best *Coleuses* were shown by Messrs. Brooks & Son, and Mr. H. Day, gardener to E. W. Hill, Esq. Table plants were staged in perfect condition by Messrs. G. Cole and G. Shelton. There were also classes for *Fuchsias* and various single specimen plants, all of which were well filled.

Groups of miscellaneous plants, arranged for effect on a space occupying 100 square feet, were more numerous and superior to anything of the kind seen at Weston-super-Mare before. Mr. W. Rowland was first for an artistic arrangement of excellent materials; second Mr. W. Finch, who, if the background had been better, must have been placed first; third Messrs. Brooks & Son, three others competing. For a smaller group Mr. W. Summerhayes was first.

Cut flowers were numerous, and of good quality throughout. It is not often Roses are seen so large, well formed, and fresh in August, and after a dry, hot time too. For twenty-four varieties in triplets Mr. J. Mattock, Oxford, was first, and Messrs. Townsend & Son, Worcester, second. The first prize for twelve Hybrid Perpetuals went to Messrs. Jarman & Co., Chard, Mr. G. Garraway, Bath, being a good second. With twelve Teas Mr. J. Mattock was easily first; second, Messrs. Townsend & Son. The twenty-four blooms of Mrs. J. Laing, staged by Messrs. Jarman and Co., were worthy of special mention. Dahlias were well shown by Messrs. W. Treseder, Cardiff, and G. Humphries, Chippenham, who took the prizes in the order named. Mr. W. Treseder was also first for Cactus Dahlias; second, Mr. T. Truckle, gardener to T. Carr, Esq., Twerton-on-Avon, the last named also getting a first for single Dahlias.

The principal exhibitors of Gladioli were Messrs. S. Bird, gardener to F. H. Fox, Esq., Wellington; G. Humphries, and W. Taplin & Sons. The best Asters were shown by Mr. C. H. Vickery, Bath; second, Mr. F. Hooper, Bath. Mr. W. Smith, Kingswood, was well first for Hollyhocks. Messrs. Brooks & Son and Mr. Humphries had first for Zonal *Pelargoniums*. *Begonias* of the best description were shown by Mr. J. B. Blackmore and others. The first prize for hardy herbaceous flowers went to Mr. W. Treseder; second, Mr. A. A. Walters, Bath. The best annuals were shown by Mr. A. H. Newman, gardener to W. Lewis, Esq., Bath; and for choice cut flowers Mr. H. W. Maidment was first. Bouquets, vases, and floral designs were numerous and well shown.

Fruit has been staged in larger quantities at previous shows, but no fault could be found with the quality of much that was staged. Only two competed with a collection of eight dishes. Mr. W. Strugnell, gardener to Colonel Drexell, Rood Ashton, Trowbridge, was first, showing good Alnwick Seedling and rather small Foster's Seedling Grapes, Hampstead Park Seedling Melon, Alexandra Noblesse Peaches, Stanwick Elruge Nectarines, Brown Turkey Figs, Governor Wood Cherries, and Moorpark Apricots. Mr. A. Crossman, gardener to J. Brutton, Esq., Yeovil, was a close second. The best four dishes were shown by Mr. W. Eaves, gardener to E. C. Trevilian, Esq.; the second prize going to Mr. J. McCulloch, gardener to J. C. Godwin,

Esq. Mr. G. Lock, Crediton, was the only exhibitor of a Pine Apple, and was awarded the first prize. The competition in the Grape classes was good throughout, and in the case of Black Hamburgh particularly so. Large perfectly coloured clusters of the latter variety were shown by Mr. Wilkinson, who took the first prize. In the any other black class Mr. A. Crossman led with Madresfield Court in good condition, the second prize going to Mr. G. Sutton, gardener to W. A. Todd, Esq., for well-finished clusters of Alicante. In the Muscat of Alexandra class Mr. W. Smith was first for well-ripened bunches; second, Mr. Wilkinson for larger but not quite so well ripened bunches and berries. Beautifully ripened clusters of Buckland Sweetwater gained Mr. J. Marshall, gardener to J. Dole, Esq., Clifton, the first prize for any other white Grape. Second, Mr. G. Sutton, gardener to W. A. Todd, Esq., for good bunches of the same variety. With Melons Messrs. A. Crossman, W. Strugnell, and Mr. R. Mason, gardener to Mr. A. J. Barr, Uphill, were the principal prizewinners. The Frome Flower and Fruit Company had the best Peaches, good fruit of Sea Eagle; and other winners of prizes in the various classes for small fruits were Messrs. J. Day, T. Wilkinson, G. Henley, W. Hayes, W. Eaves, F. Pearce, A. Crossman, W. Summerhayes, and S. Kidley.

Vegetables were plentiful, and gave no signs of having been grown in a dry season. Mr. J. Hall, Wells, had the best collection. Second, Mr. S. Kidley, gardener to W. A. Sandford, Esq., Wellington; third, Mr. G. Garraway, Bath. A good dish of Rolfe's Exhibition shown by the Frome Flower and Fruit Company won the first prize in the class for Tomatoes.

TAUNTON DENE.—AUGUST 11TH.

ALTOGETHER thirty-one summer shows have been held by the Taunton Dene Horticultural Society, and these have gained a deserved and widespread reputation for superiority of the produce shown in all the departments provided. On the occasion under notice it was unanimously agreed among the Judges that it was the best exhibition yet held in Taunton; while those competent to express an opinion, unhesitatingly declared that it would not be equalled by the exhibitions of any other society in the West of England, and surpassed by few in other parts of the country. Fine weather again favoured the fixture, and, thanks to the excellent Secretary, Mr. John S. Winsor, who received good help from an active Committee, the arrangements left nothing to be desired. All through the afternoon the eight large tents provided for the exhibits were thronged with visitors, and if this report is somewhat imperfect, that must be our excuse for shortcomings.

OPEN CLASSES.

Five noted growers competed in the class for twelve stove and greenhouse plants in flower, and a grand display was made down the whole length of one long tent. The Judges, however, had no difficulty in awarding the first prize (£20) to Mr. J. Cypher, Cheltenham, who staged grand plants of *Phœnocomma prolifera* Barnesi (2), *Statice intermedia* and *profusa*, *Bougainvillea glabra*, *Stephanotis floribunda*, *Allamanda nobilis*, *Ixora Duffi*, and *Ericas Irbyana*, *Austiniana*, *Fairriana*, and *Aitoniana*. To Mr. W. Finch was awarded the second prize, the third going to Mr. W. Rowland, gardener to W. Brock, Esq., Exeter, and an extra prize to Mr. W. Vause, Leamington, all of whom put up several plants of great excellence. For six flowering plants Mr. Cypher was well first, as was he for eight fine-foliage plants.

The best eight exotic Ferns were shown by Mr. W. Rowland, these including fine specimens of *Dicksonias antarctica* and *squarrosa*. Mr. E. Merrett, gardener to H. S. Bailey, Esq., Glastonbury, was second, and Mr. H. Godding, Taunton, third. The first prize for four Orchids went to Mr. W. Thomas, gardener to W. Marshall, Esq., Taunton, who staged a specimen of *Epidendrum prismatocarpum* with about forty spikes of blooms, *Cypripedium Rothschildianum*, *Cattleyas gigas* and *Rex* in good condition; second Mr. J. Cypher. For a new or rare plant, Mr. W. Thomas was first, and Mr. Cypher second, both showing well flowered plants of *Acalypha Sanderi*. Tuberous *Begonias* were remarkably fine, particularly the eight plants which gained Mr. J. Thomas the first prize. Mr. H. Godding was second, and Mr. S. Dight, gardener to the Rev. D. J. Pring, third. Zonal *Pelargoniums* were also of great merit. Mr. H. Mockridge was the most successful with these, second prize going to Mr. H. Godding.

For the first time in the annals of the Taunton Society a tent was provided solely for groups of miscellaneous plants arranged for effect, and the four competitors in the open class made such an attractive display as to fully justify this extra outlay. The first prize was won by Mr. W. Rowland, who had a wealth of beautiful plants at his disposal, and succeeded in arranging a very effective group. Mr. W. Finch was second, Mr. W. Peel third, and an extra prize was awarded to Mr. W. Vause.

The best thirty-six varieties of Roses were shown by Mr. J. Mattock, Oxford, the second prize going to Mr. T. Hobbs, Bristol. For eighteen varieties Mr. Mattock was first, and Messrs. Jarman & Co., Chard, second, Mr. J. Mattock was also first for eighteen Teas; second Dr. S. P. Budd, Bath. Mr. G. Humphreys, Chippenham, was most successful in the Dahlia classes, Messrs. Jarman & Co., and J. Cording, gardener to the Rev. P. W. Bruncker, taking second prizes. A Bath grower, Mr. H. Vickery, showed the best Asters. Mr. H. W. Weguelin was most successful with Carnations. The first prize for hardy perennials went to Mr. James Clark, and for choice flowers to Mr. W. Thomas. The first prize for a decorated dinner-table laid for eight persons was won by Mr. J. Cypher, who depended principally upon white and yellow Carnations, tastefully arranged; second Miss Lock, Crediton.

In the fruit department there was, as previously intimated, a falling off in the number of entries; only two competed, with a collection of eight dishes. Mr. W. Strugnell, gardener to Col. Drexell, Rood Ashton, Trowbridge, took the first prize, showing very good Alnwick Seedling, and small, but well-ripened bunches of Foster's Seedling Grapes, a large handsome fruit of Taunton Hero Melon, Alexandra Noblesse Peaches, Stanwick Elrue Nectarines, Brown Turkey Figs, Moorpark Apricots, and Governor Wood Cherries, all uniformly good in quality. Second Mr. A. Crossman, gardener to J. Brutton, Esq., Yeovil. With four dishes the competition was very keen, or better than usual. Mr. W. Mitchell, gardener to J. W. Fleming, Esq., was first, his Madresfield Court being remarkably fine, while the Melon, Sea Eagle Peaches, and Lord Napier Nectarines were of average quality; Mr. Crossman was a good second, and Mr. S. Kidley third.

The class for three bunches of Black Hamburg Grape was well filled, and all the winning stands were of excellent quality. It is doubtful if the three grand bunches which gained Mr. Mitchell the first prize would be beaten anywhere. Mr. T. Wilkinson, gardener to Rev. T. Greaves, was a good second; and Mr. S. Kidley third. In the any other black class Mr. Mitchell was first for superb Madresfield Court. The bunches and berries were large, and the finish perfect; nothing so good of the kind ever seen previously, in the West of England at any rate. Mr. C. Cooper, gardener to Mrs. McAdam Smith, was second with very good Alicante; third, Mr. Crossman; extra fourth, Mr. W. Eaves, both showing Madresfield Court in a creditable condition. Muscats were fairly numerous, and in most instances well ripened. Mr. W. Mitchell was first for fine clusters: second, Mr. T. Wilkinson; third, Mr. Crossman.

In the any other white class Mr. G. Sutton, gardener to A. Todd, Esq., was first for fine clusters of Buckland Sweetwater; second, Mr. Wilkinson, who showed grand examples of Foster's Seedling; third, Mr. Webber, gardener to G. F. Luttrell, Esq., who relied on good Buckland Sweetwater. Melons were plentiful and good in quality, but only a few were named. First, Mr. C. Cridge, gardener to B. James, Esq.; second, Mr. W. Owen, gardener to the Rev. P. T. Mirsey. The first prize for Peaches went to the Flower and Fruit Co., Frome, who showed fine fruit of Sea Eagle; Mr. Mitchell was second. Mr. S. Kidley had a first for good Nectarine Pineapple; second, Mr. Webber. Mr. R. Huxtable, gardener to F. M. Newton, Esq., was first for a dish of fine Apricots; second, Mr. W. Eaves. Plums, Pears, Cherries, Apples, and other fruits were all shown in separate classes, but the crowds of visitors prevented the names of prizewinners being taken.

Private gardeners exhibited fewer vegetables than usual, especially in the classes for single dishes. The cottagers, on the other hand, filled one large tent with their produce, and better vegetables it would be difficult to find anywhere. In the open classes Mr. T. Wilkins, Inwood Gardens, Henstridge, was most successful, taking the first prizes offered by the Society and also by Messrs. Sutton & Sons for collections, showing superior produce in his well-known style. Mr. T. Harrison, gardener to Major Aldworth, Yeovil, was first for a collection, the prizes for which class were provided by Messrs. Webb & Son, Stourbridge, showing excellent vegetables in a praiseworthy manner. Second prizes were won by Mr. T. Harrison, Mr. J. Webber, and third prizes by Mr. S. Kidley. The first prize for Tomatoes went to the Frome Flower and Fruit Company for good fruit of Rolfe's Exhibition; second, Mr. Cousins.

AMATEURS' CLASSES.

Another large tent wholly devoted to classes from which trade growers were excluded was densely packed with plants and cut flowers. For twelve stove and greenhouse plants Mr. W. Thomas was first, he showing large flowering Anthuriums, grand Crotons, a good Bougainvillea glabra, a huge Pancratium fragrans, and other well-grown plants. Mr. W. Rowland was second, and Mr. W. Peel, gardener to Miss Todd, Southampton, third, an extra prize going to Mr. S. Kidley. For six specimen plants Mr. W. Rowland received a first prize, the second going to Mr. W. Thomas, and the third to Mr. W. Peel. The best four flowering plants were shown by Mr. Peel, second Mr. Rowland. Mr. Peel was also first for fine-foliaged plants, second Mr. W. Rowland. The first prize for four Orchids went to Mr. W. Thomas. The best six exotic Ferns were shown by Mr. W. Peel, second Mr. W. Rowland, third Mr. J. Sheppard, gardener to Mrs. Hickley. For table plants the prizes went to Mr. W. Shelton, gardener to W. K. Waite, Esq., Clifton, Mr. G. Sutton, gardener to W. A. Todd, Esq., and Mr. H. W. Maidment in the order named for an admirable assortment.

Begonias, Achimenes, Gloxinias, Coleuses, Petunias, Cockscombs, and other plants for which classes were provided were well shown, and the principal prizewinners were Messrs. T. Hubbard, gardener to H. St. B. Goldsmith, Esq.; S. Tottle, W. Thomas, W. Welby, gardener to C. Harman, Esq.; C. Totterdell, gardener to A. J. Spiller, Esq.; W. H. Bruford, W. H. Day, J. Moggridge, C. Cridge, and T. Essex, gardener to C. E. Esdaile, Esq.

For six bunches of stove and greenhouse flowers Mr. W. Thomas was well first, the second prize going to Mr. J. Parrish, and the third to Mr. W. H. Bruford. Hardy herbaceous flowers are always largely and well exhibited at Taunton. For a collection Mr. J. Cording was first, Mrs. McAlister second, and Mr. S. Kidley third. Mr. W. McAdam Smith was the most successful exhibitor of Zonal Pelargoniums, second prizes going to Mr. S. Tottle and Mr. J. Shepherd, gardener to Mrs. V. Hinckley. The best twenty-four Roses were shown by Dr. Budd, the same exhibitor taking the first prize for twelve Hybrid Perpetuals and twelve Teas, Mr. T. Hobbs having to be content with second place in both classes. Classes were provided for various other flowers, the prizes going principally to the successful competitors in the open classes.

NON-COMPETITIVE EXHIBITS.

So much tent space was occupied by the exhibits competing for prizes, that not nearly enough staging could be spared to do justice to the trade displays brought from various parts of the country. Messrs. R. Veitch & Sons, Exeter, arranged an attractive group of choice pot plants, rock plants, hardy herbaceous flowers, and shrubs, Dahlias, Roses, and the like, together with admirable photographs of water scenery and rock gardens formed by them. Messrs. Webb & Sons, Stourbridge, arranged a variety of annuals and other flowers in an effective manner; while from Mr. B. R. Davis, Yeovil, came a fine assortment of Sweet Peas arranged with grasses. Messrs. Jarman & Co., Chard, occupied central end tables with a bank of choice pot plants, and stands of garden and other Roses, Begonias, and Dahlias.

Very imposing were Messrs. Kelway & Sons' stands of Gladioli, and a good display of Zonal Pelargoniums, Carnations, and hardy herbaceous flowers was made by Mr. W. J. Godfrey, Exmouth. Messrs. W. Clibran and Son, Altrincham, Cheshire, arranged a grand show of herbaceous flowers, together with a good assortment of hardy, ornamental-leaved, deciduous plants, Carnations, Begonias, and Dahlias. Mr. H. W. Weguelin exhibited cut border Carnations grandly, as also did Messrs. E. Foote & Son, Sherborne.

HARBORNE GOOSEBERRY GROWERS' SOCIETY.

THIS octogenarian society has just held its eighty-fourth annual show of berries. The show was preceded by other two—the Harborne Horticultural Society's Show held on Bank Holiday, and that of a younger society, the Harborne and District, held on the 6th inst. The fact of exhibitions held by three separate societies in the same locality for several years past is an earnest of the interest invested in the cultivation and exhibition of the fruit in this particular spot of the Midlands. The recent show of the paternal society was pronounced to be the best and largest that has been held for several years, and the attendance of visitors hailing from Birmingham and the surrounding district during the two days was unusually large.

The heaviest recorded berry ever exhibited at either of the Societies' shows was one of Barton's Bobby, weighing upwards of 37 dwts., some twenty years ago, by the raiser; whilst the premier berry at the recent show, Transparent, exhibited by Mr. Tom Richards—an ardent old grower, and who for the last thirty years had been trying to secure the coveted honour, but without success—only weighed 28 dwts. 8 grs. It was, however, the heaviest berry recorded for several years past at either of the shows in question, a well-earned reward for a remarkable example of long-endured patience. The remaining prizes were as follows:—

Twin Berries.—First, Mr. Boraston, Leveller, 34 dwts. 12 grs. Second, Mr. Withers, Ringer, 32 dwts. Third, Mr. Richards, Blucher, 28 dwts.

Class Prizes.—First, Mr. Boraston, Blucher, 24 dwts. 17 grs. Second, Mr. Withers, Bobby, 24 dwts. Third, Mr. Wyse, Falstaff, 21 dwts.

Yellow Berries.—First, Mr. Boraston, Ringer, 25 dwts. Second, Mr. Rose, Leveller, 23 dwts. 18 grs. Third, Mr. Withers, Thatcher, 19 dwts. 4 grs.

Green Berries.—First, Mr. James, Surprise, 21 dwts. 12 grs. Second, Mr. Wyse, Shiner, 20 dwts. 1 gr. Third, Mr. Boraston, Cheerful, 20 dwts.

White Berries.—First, Mr. Withers, Transparent, 21 dwts. 18 grs. Second, Mr. Boraston, Faithful, 20 dwts. 6 grs. Third, Mr. Richards, Fascination, 19 dwts. 12 grs.

Plates of Twelve Red Berries for Weight.—First, Mr. Withers, Bobby, 260 dwts. 9 grs. Mr. Boraston, Lord Derby, 218 dwts. 12 grs. Mr. Richards, Blucher, 209 dwts. 12 grs.

Twelve Yellow Berries for Weight.—First, Mr. Withers, Ringer, 238 dwts. 16 grs. Second, Mr. Boraston, Leveller, 238 dwts. 8 grs. Third, Mr. Richards, Lady Popham, 164 dwts. 12 grs.

Twelve Green Berries for Weight.—First, Mr. James, Surprise, 210 dwts. 12 grs. Second, Mr. Boraston, British Oak, 195 dwts. 12 grs. Third, Mr. Withers, Diadem, 195 dwts. 10 grs.

Twelve White Berries for Weight.—First, Mr. Withers, Transparent, 217 dwts. 18 grs. Second, Mr. Boraston, Fascination, 212 dwts. Third, Mr. James, Careless, 174 dwts. 12 grs.

Plates of Twelve Berries for Flavour (irrespective of colour).—First, Mr. Withers, Leveller. Second, Mr. Rose, Dan's Mistake. Third, Mr. Boraston, Blucher. Fourth, Mr. Richards, Transparent.

Mr. Boraston has been Secretary of this Society for twenty-three years.

FRUIT AND VEGETABLE PRESERVATION.—Recognising the importance of the best methods of preserving fruit and vegetables, the Royal Agricultural Society is offering several prizes to be competed for at Maidstone next year. Two prizes of £5 and £3 are offered in each of five classes for preserved fruits and vegetables—(1) collection of dried or evaporated fruits; (2) collection of dried or evaporated vegetables; (3) collection of bottled fruits (whole fruit) to be shown in clear glass bottles; (4) collection of preserved fruits for dessert purposes, in boxes or other suitable receptacles; (5) collection of jams, to be shown in 1 lb. clear glass jars. Three prizes of £5, £3, and £2 respectively are offered in each of four classes of cider and perry—(1) cask of cider, not less than 18 and not more than 30 gallons, made in the autumn of 1898; (2) one dozen cider made in the autumn of 1898; (3) one dozen cider made in any year before 1898; (4) one dozen perry. The Society also offers a prize of £20 for a machine for the evaporation of fruit and vegetables, and two prizes of £5 for the best system of packing jams and fruit for travelling—(a) for soft fruit, (b) for hard fruit. Entries for jams and preserved fruits and vegetables close on May 15th, 1899; those for evaporators and packing close on April 1st, 1899.

THE YOUNG GARDENERS' DOMAIN.

LAPAGERIAS ROSEA AND ALBA.

LAPAGERIAS rosea and alba are, I think, two of the handsomest flowering climbers in cultivation. The flowers can be effectively employed in so many ways. The sprays are charming for draping the sides of vases which are filled with cut flowers, and for table decoration there is nothing to surpass them arranged on Asparagus decumbens. If the plants are well trained and well flowered they make noble specimens for exhibition purposes, especially rosea, which is much freer flowering than the white variety. Lapagerias are natives of Chili, and belong to the natural order Smilacaceæ. When established they will be quite at home in a cool greenhouse with a temperature not below 40°. They bloom freely if trained on the rafters where they are exposed to the full light and where they will receive abundance of fresh air, which is of the utmost importance.

Propagation can be done either by seed or by layering the young shoots. They can be increased by cuttings, but it is slow work, because the wood being so hard and wiry they will not root freely. The soil best suited to the successful culture of Lapagerias is a mixture of turfy loam and peat in equal proportions, with some sand, mortar rubbish, and charcoal added; it should be used in as rough a state as possible, whether the plants are grown in pots or planted out in a border. The drainage must also be perfect, as Lapagerias are gross feeders and require abundance of water during the growing season, and if there is not a free exit the soil will become sour and the plants fall into a bad state. The syringe should be used as often as possible to keep the foliage clean and healthy, and also to keep in check thrips, which is one of the Lapageria's worst enemies. Both Lapageria rosea and alba should find a home in every garden of any pretension, and they will fully repay care and attention.—S. S.

RICHARDIAS.

RICHARDIA is the proper name of the genus, which is often called Calla. In my apprenticeship days Calla æthiopica was the name my superiors gave the Lily of the Nile, which is now known as Richardia africana. As a decorative greenhouse plant this species is almost indispensable. The flowers when cut with long stalks make striking objects for occupying vases in the mansion house, and they are useful for wreaths and other floral designs. Their graceful shape, pure white colour, and waxy texture form a combination of qualities which is rare amongst our greenhouse flowers. The elegant habit of the whole plant with its finely curved leaves renders it fit for including in any greenhouse group.

The plants may be propagated by suckers or seeds. The former method is the quicker and easier. They like a rich compost, which should be kept moist at all times. Suckers ought to be procured in the spring, and, after potting singly, should be placed in a warm part of the greenhouse till they make some growth. They may then be grown in a cool sunny position indoors till the middle or end of July, and then be plunged or planted outside. Towards the end of September, or before frost appears, they should be lifted, repotted, and grown in the greenhouse. There they will probably flower early the following season. Established plants may be well grown in the same way.

There are several other species of Richardia which are worth growing. R. albo-maculata and R. melanoleuca are two species introduced about thirty years ago. The former, as its name implies, has white spotted leaves, and the flowers are smaller than those of R. africana. The outer base of the spathe is often tinged with green. R. melanoleuca has leaves with white spots also, but they are shorter and broader than those of albo-maculata. The flowers are of a pale yellow or cream colour, and the inner base is marked with a large purple blotch, from the centre of which arises the white spadix. These two species are not so hardy and flower later than the common one.

R. Elliotiana, R. Pentlandi, and R. Rehmanni are newer species. The first is a splendid one, its flowers being large and of a bright yellow colour. It is a native of tropical Africa, and therefore requires a warmer temperature than the common species (R. africana), which is a native of the southern part of the same continent. R. Pentlandi has smaller flowers, but they are also of a bright yellow colour. It should be treated in a similar way to Elliotiana. The foliage of these two species dies down, but they should not be allowed to get very dry at the roots while resting, but rather kept in a cool part of the greenhouse and watered occasionally till they show signs of growth. They may then be repotted in rich compost and grown in an intermediate house.

R. Rehmanni is what some florists call the Pink Arum, although it is not an Arum at all, neither is it pink in colour. Truly there is usually a pink tinge throughout the spathe or round its upper edge, but the predominant colour is greenish yellow or greenish white. The flowers are rather small, and certainly not of a striking appearance. There is a rumour of a red species being found, and one with red spathes and white spadices would certainly be highly valued, and fortunate will be the man who introduces it.—X. L. C. R.

TRADE CATALOGUES RECEIVED.

- Austin & McAslan, Glasgow.—*Flower Roots and Plants.*
 H. Cannell & Sons, Swanley.—*Strawberries and Raspberries.*
 Dicksons & Co., Waterloo Place, Edinburgh.—*Flower Roots.*
 E. P. Dixon & Sons, Hull.—*Bulbs.*
 Dobie and Mason, Oak Street, Manchester.—*Bulbs.*
 W. Paul & Son, Waltham Cross.—*Bulbs.*
 J. R. Pearson & Sons, Chilwell, Notts.—*Autumn Catalogue.*
 R. Sydenham, Tenby Street, Birmingham.—*Bulbs.*
 J. Veitch & Sons, Ltd, Royal Exotic Nursery, Chelsea.—*Bulbs.*



HARDY FRUIT GARDEN.

Apricots.—Trees that are cleared of fruit should be examined, superfluous wood and useless spurs cut out, regulating new wood to fill up vacancies, and laying in additional shoots if required. Retain suitable growths at the base of the trees, as these come in most useful if found necessary to furnish the trees with new branches owing to dying off of the old. The majority of the shoots cut out ought to be those situated in unsuitable positions. Others that cannot be, or are not required for training in may be shortened to form spurs. The proper regulation of the wood and shoots at this season assists to a large extent the complete ripening of the growths.

Syringe the foliage so as to clear it of red spider and other insects. Give the roots a good soaking of water, afterwards an application of liquid manure, or a dressing of chemical manure washed in proves beneficial, supplying food for the roots to perfect the fruit buds. Young trees may not require this assistance, but the soil must be kept moist.

For Apricots still swelling their fruits moisture at the roots must be steadily maintained. In addition to water give a little stimulating food, which can be readily appropriated. Mulch the surface afterwards. Place nets to catch any fruits which may fall.

Peaches and Nectarines.—Trees swelling and ripening fruit require attention. Adequate moisture for the roots is important, trees against walls of any aspect soon abstracting during the growing season all the available moisture from the soil. Liberal supplies of other soluble food are also demanded, which may be met by applications of liquid manure. Concentrated manures may also be given. They are easily obtainable, safely applied when the directions are followed, and when washed in have an immediate effect. Trees having fruit approaching the ripening stage ought to have strong manurial applications suspended. They will also be better without heavy waterings if a copious supply was given when the fruit commenced to colour, and the escape of moisture prevented by a generous mulching. Fix nets to catch fruits which may fall.

It is important that all the most suitably placed wood be carefully laid in, avoiding the error of securing too much, which it will be impossible to thoroughly ripen. Free extension of wood, however, is good for Peaches and Nectarines. High walls, which afford plenty of space, are for this reason the best, but every effort ought to be made to keep the lower parts of the trees furnished as well as the upper.

Plums.—Trees either on walls or in the open bearing good crops will be benefited by feeding. It will not only assist the fruit to enlarge and improve its quality, but afford help to the growth, which may not in all cases be receiving the sustenance necessary owing to extra demands of the crop.

Continue to lay in shoots of wall trees where space is available. Superfluous growths cut clean out, or shorten to form spurs. It may be desirable to renew a branch that is exhausted or lacks vigour. In such cases cut back to strong healthy growths, which may be trained in to refurnish the space. Plums bear better, and are healthier when the trees are allowed to carry a fair proportion of new wood annually, the oldest and most exhausted being cut out. The system obviates the necessity of retaining old elongated spurs, which are better dispensed with.

In the open Plums should be cultivated chiefly as low standards. Plenty of space for the trees and little pruning are points worth consideration. The pruning may consist of thinning out and regulating branches, carrying out the operation after the fruit has been gathered. Dead wood remove at any time, and suckers carefully dig up.

Apples and Pears.—Cordon Apples and Pears, as well as other forms of trained trees against walls, abstract all the available moisture from the surrounding soil, especially if the trees are bearing good crops. Hence it is the best policy to afford liberal supplies of moisture, including liquid manure, in order to maintain the requisite conditions for insuring the swelling and perfecting of the fruit. Prevent rapid evaporation by a liberal mulching of manure over the roots. If not already done, shorten the foreright shoots to four or six leaves, also the leaders if the allotted space is filled. If not, let them extend unshortened.

Morello Cherries.—The fruit of these hang on the trees in good condition a long time after becoming ripe. Birds do not attack them so freely as sweet Cherries, so unless they do, netting will not be required. As the trees are cleared of fruit, superfluous wood may be cut out, and the new growths nailed in. The shoots may be laid in rather more thickly than is desirable in the case of other fruit trees, 3 or 4 inches between the growths being a suitable distance. In hot, dry positions red spider infests the foliage. A good cleansing with clear water should be given at every opportunity before the fruit ripens and after it has been gathered. In bad insect attacks employ a strong insecticide.

FRUIT FORCING.

Cucumbers.—Old plants which have been bearing from an early part of the season produce about this time, or soon after, knobby-ended fruits. These have very indifferent value for use; but they are essential for seed, as the long and straight handsome fruits are less prolific, even when the

flowers are fertilised. Old plants (and it is almost a necessity where the means are limited) may be kept in a bearing condition by cutting out the old wood and encouraging young growths, so as to insure a succession of bearing shoots. Train these thinly, removing old leaves to afford room for new growths, and stop these at one joint beyond the fruit. Remove the surface soil and supply fresh lumpy loam. Plants that have been in bearing in frames some time will be restored to vigour by a free thinning out of the old shoots and the addition of a little fresh loam, giving a moderate watering and a sprinkling over the foliage on bright afternoons, closing at about 3 P.M. With linings to the beds, and the protection of mats over the lights, Cucumbers will be produced over a lengthened period.

Autumn-fruiting Plants.—These are much better than old plants for affording plentiful supplies of clean fruits, and should be encouraged to make a strong growth by earthing betimes, applying enough moist and warm soil each time to cover the protruding roots. Supply water only when needed, and give a thorough moistening of the soil each time. Damp the floors and walls in the morning, at noon, and in the evening, syringing about 3 P.M. in bright weather. Maintain a night temperature of 65° to 70°, 70° to 75° by day, with 80° to 90° by sun heat, and close so as to increase 95° or even 100°. Train the growths thinly, allowing about 12 inches between the side growths, and stop them at about a foot's growth to give the needful furnishing and bearing growths. Remove all fruits and flowers as they show so as to induce vigorous growth, the beginning of September being sufficiently early to allow fruit to show for cutting at the end of that month, then by judicious cropping at first a good number of fruits can be had during the autumn and early winter. Avoid over-luxuriance by rich surface dressings and the too free use of liquid manure; but secure plenty of roots by sweet compost, and a sturdy, thoroughly solidified growth by judicious ventilation and full exposure of the foliage to the light.

Houses for Winter Fruit.—The structure must be light, efficiently heated both at the top and bottom, and means of ventilation so provided as to admit air without causing a prejudicial current. The plants will have been raised from seed during the first or second week of this month. Pot them as soon as ready, shift them as they require more root space, keep near the glass, and place a small stick to each for support, growing the plants without stopping, but rubbing off side shoots as they appear to the height of the trellis. In the meanwhile thoroughly cleanse the house, remove all the old soil, and make everything as sweet and efficient as possible for winter.

Peaches and Nectarines.—**Earliest Forced Trees.**—The trees being exposed to the full influences of the air by the removal of the roof-lights will be greatly benefited through the foliage being cleansed by rain, and invigorated by night dews. This will aid in swelling the buds without inducing over-development, and if the soil of the border is thoroughly moistened by rain or watering, the buds are not likely to be cast at a later period. A vital point in the continued early forcing of Peaches and Nectarines is to prevent the trees starting into growth prematurely. This can only be prevented by keeping them cool, along with some outlets for the sap in moderate lateral growths, and the preservation of the foliage in health. When the roof-lights are fixed the trees should have all the air possible, and they must not suffer by want of water at the roots, or the buds will become defective and fall when the sap ascends. Trees in pots should be top-dressed, they having been some time outdoors plunged in ashes, choosing a dull time for the operation, and after removing about one-third of the soil over and around the ball, supply fresh and rich, giving a good watering. The trees push fresh rootlets and are in a position to support the blossom and young fruit in the early stages.

Succession Houses.—When the fruit is gathered cut out all the bearing wood of this season unless forming extensions, and the shoots for next year's fruiting where too crowded should be thinned to admit light and air to assist the ripening of the wood. Afterwards cleanse the foliage thoroughly with water from the syringe or garden engine. The roof lights should be removed as soon as the wood is ripe and the buds are plump, unless the trees are young and there is any doubt about the ripeness of the wood, when a temperature of 80° to 85° should be maintained from sun heat, and the ventilators thrown open at night. Supply water to the roots so as to keep the soil in a moist condition. Weakly trees will be benefited by the application of liquid manure.

Late Houses.—Let the fruit have full exposure to the sun, drawing the leaves aside, and raising depending fruit with its apex to the light by laths placed crosswise of the trellis. Keep the growths tied as they advance in length. Stop or remove gross growths, and let all have full exposure to light. Laterals should be kept well in hand, but they may be allowed moderate extension in the case of trees carrying heavy crops, so as to attract the sap to the fruit and maintain activity at the roots. Trees carrying light crops and having strong wood and much lateral growth should be marked for lifting or root-pruning as soon as the wood is sufficiently firm. This ought to be done a month or six weeks in advance of the leaves falling. Continue the syringing on fine days in the morning and afternoon until the fruit commences ripening, but on dull days damp the house instead of syringing the trees. Provide a little ventilation constantly, and increase it early in the day.

Ripening the Fruit.—If it is desired to accelerate the ripening of the fruit the temperature through the day may be kept at 80° to 85°, closing in the afternoon early enough to raise the heat to 90° or 95°, and before nightfall admit a little air at the top of the house, so as to permit of any excess of moisture escaping, and to induce a cooling of the atmosphere and rest. The increased temperature must be accompanied by a correspondingly moist atmosphere. In other circumstances allow no opportunity

of free ventilation to be neglected; but in case of high winds it is well to moderate the ventilation, admitting air on the opposite side to that from which the wind blows, and closing must be regulated so as to prevent an unusually low temperature at night. Attend to the inside and outside borders, taking care to supply them with sufficient water, never allowing the soil to be so dry as to cause the foliage to become limp, as that may check the fruit in swelling, and induce premature ripening, or the fruit will be thin in flesh and poor in flavour. A light mulching of short lumpy manure will tend to keep the soil moist, attract the roots to the surface, and watering will carry the manurial elements down to the roots, and diffuse them through the soil. Liquid manure should be supplied to weakly trees and those carrying heavy crops, or apply a top-dressing of some approved fertiliser, and wash in moderately.

THE BEE-KEEPER.

UNFINISHED SECTIONS.

If the bees have been provided with ample room as they required it, there will usually be found some sections that are not properly filled, or if full, not neatly sealed over. The aim of the bee-keeper should be to obtain as many well-finished sections as possible, which can only be done by close attention to the closing up of the unsealed sections to one end of the crate, and covering them up warm with an extra thickness of some material.

The sections should be placed directly over the centre of the brood nest, as experience has taught us that much more warmth is obtained in this position than from any other. The intervening space between the sections and the end of the crate should be filled with any spare coverings that may be to hand; there will then be no escape of heat, and if a piece of board is placed over the whole and weighted down with a brick, it will add very much to the temperature of the super.

ATTENTION TO STRAW SKEPS.

Supers on straw skeps vary very much. A few bee-keepers obtain some well-finished sections from their skeps, and when this is the case they may be removed in the same manner as advised for those worked on frame hives. The majority, however, that have come under our notice have been ordinary bell-glasses, which, however ornamental they may be when filled with honey and well sealed over, are not useful, as it is impossible to remove the contents without breaking the comb, and however carefully the operation is carried out, there will be waste.

A large bell-glass filled with honey, although well sealed over, will not be clear of bees so long as the weather is warm, and unless the super is removed before the cold nights set in, the bees will commence to clear out the surplus and carry it down into the body of the hive. Before attempting to lift the glass from the board on which it is placed, a piece of fine wire should be drawn underneath so as to sever the comb; place a couple of wedges beneath the edge of the glass, and allow it to remain in this position for an hour, the bees will then clean up the dripping honey caused by the severing of the combs. When this has taken place, lift the glass bodily from the hive and carry it some distance away, brushing the bees off with a feather.

The bees that still remain between the combs will return to their hive on emerging from the glass if the latter is placed in a shady corner and the bees brushed off as often as required. This plan is preferred to using smoke, which often gives an unpleasant flavour to the honey.—AN ENGLISH BEE-KEEPER.

SAMPLE OF COMB.

KINDLY tell me if the enclosed is foul brood, and if so, what is the remedy. The piece of comb is taken from a bar-frame hive, which was said to be in excellent condition in the spring. The bees have gathered very little honey, and I have not seen a swarm from the hive. Two 1 lb. sections of honey are all I have had from it. I have another hive which sent out a swarm in May, and have had several sections.—J. D.

[The brood in the piece of comb forwarded is perfectly healthy, and is not affected with foul brood. Whoever examined them in the spring and reported the stocks to be in "excellent condition" was doubtless correct in his opinion. If the bees did not swarm, the queen probably died from old age or some other cause. They would then raise another queen, and there would thus be a delay of nearly a month before she commenced laying; another month would elapse before the young bees were collecting honey. During that time the old bees would dwindle away, so that few remained in the hive, and this would account for there being but two sections obtained from this stock. As "J. D." is a novice at bee-keeping, we may inform him that the large cells sealed over were filled with drones. The worker cells had brood in various stages of development, but were not in such an advanced stage as the drones, consequently were not sealed over. Judging from the numerous newly laid eggs, we consider the stock is now headed by a very prolific queen, which will doubtless do well another season.]

TO CORRESPONDENTS

All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," **8. Rose Hill Road, Wandsworth, S.W.**, and **NOT** to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Phlox Drummondii (*K. W. G.*).—The flowers of *Phlox Drummondii* that you send represent the *Lorenziana* type, of which the rich colours in yours show the strain to be good. It is comparatively well known in gardens.

Carnations Diseased (*A. Z.*).—The two plants are infested with eelworm, and in the most peculiar way that has come to our notice. The stems of both the plants are much swollen just above the ground level, and the lateral or side "grass" stems are also much enlarged where they issue from the main stem, being several times larger than in the normal state. The grass and parts above the points infested are not diseased, but seriously weakened by the eelworm appropriating the nourishment. The roots are quite healthy, white, and with plenty of fibrellets. Thus the eelworms have made sure of a thorough and regular supply of nutrition, and the plants suffer and die in consequence. How, when, and where the eelworm commenced the attack does not appear from your letter, but probably arose from the material used in layering, this being infested, and the animals gained access to the tissues through the cellular matter of the callus. Finer specimen of stem eelworm we have not seen, or so large swellings caused by this pest (*Tylenchus devastatrix*) on the stems of any plant as on your Carnations. We cannot advise anything for the diseased plants but burning. The plants must die as soon as the eelworms have girdled the stems, and they then pass into the soil, living for an unknown time upon organic matter in a state of decay, as well as leading a parasitic mode of life. We recently found some benefit by spraying the diseased parts with methylated spirit, this sinking into the affected tissues. There is no danger of the eelworm affecting the parts above the points of attack, therefore the "grass" may safely be used for propagating purposes; of course, not by layering, but by cuttings. This done, we should clear away the plants and burn them, dressing the land at once with freshly burned best chalk or stone lime (not magnesian), using 2 lbs. square yard, or $\frac{1}{2}$ cwt. per rod, slaking with the smallest amount of water necessary to cause it to fall into a fine powder, spreading this evenly on the surface and allowing it to remain twenty-four hours; then dig in with a fork, taking small spits so as to mix as evenly as possible. When dug apply a dressing of kainit 4 ozs. per square yard, or $7\frac{1}{2}$ lbs. per rod. There is no need to point this in, but leave on the surface, as it will disappear by the rains, and not injure anything but the eelworms and other pests if applied some time in advance of cropping.

Asparagus after Cutting (*Idem*).—It is proper to allow the plants after cutting is over to grow up and form seed. This is, however, an exhausting process, the production of seed taking more support to itself than that expended on the formation of buds for next season's heads. But even that is better than cutting off the tops, and in that way removing all the seeding parts before ripening. This would exhaust the roots to no purpose, except, perhaps, causing some of the buds to start into growth, and thus, besides weakening the crowns, prejudice next year's supply of heads. The proper plan is to remove the berries as soon as formed on the "grass"—a process not more difficult than gathering Currants. Strong growths do not produce berries nearly so freely as the moderately strong, and the stronger the stems in summer the finer will be heads in the spring. Removing the berries while quite young and green will to some extent strengthen the "grass," and strong summer growth should be encouraged by other means as well.

Destroying Rabbits (*D. B. K.*).—We know of no method so effectual as perseverance with dogs, ferrets, nets, and spades in an enclosure from which the rabbits cannot escape. By the proper use of wire netting and the procedure advised, we have known hundreds of acres of formerly useless rabbit-infested land changed into thrifty and profitable plantations, mainly Larch. If any of our readers can suggest a better method of extirpating rabbits from an enclosed garden or other plots of land we will readily publish their experience.

Cardoons (*Mrs. F.*).—Cardoons are grown in trenches in the same way as Celery. When the plants are 18 inches high, or more, the leaves are tied together, not too tightly, and when the stems are quite dry earth is placed against them. As the plants increase in height more soil is applied, and on the approach of sharp weather the rows are covered with litter to prevent injury by frost. We have known some growers blanch the stems by binding thick haybands closely round them, and packing leaves and litter against the plants before winter.

Barlerias (*Journeyman*).—From the minute description of the plants under your charge we are of the opinion they are *Barlerias*. However, the accompanying note and illustration (fig. 25) of *B. Gibsoni* may prove



FIG. 25.—BARLERIA GIBSONI.

of definite assistance to you. As this one is the most useful we will briefly describe it. *B. Gibsoni* is a neat branching shrub, attaining a height of several feet; but handsome well furnished plants some 2 or more feet high may be grown from cuttings in a single season; and as these not only bloom freer than old plants, but produce the finest flowers, there is no advantage in keeping the old ones. The leaves are upwards of 3 inches long, ovate-lanceolate and acuminate, deep green above, glaucous below, and somewhat coriaceous in texture. Flowers funnel-shaped, produced in terminal and axillary spikes near the ends of the branches; lobes spreading, colour pale purple, the two upper lobes having a dark purple blotch in the centre. It flowers in midwinter. Native of Central India.

Disfigured Peach (*R. M. D.*).—The cause of the brown disfigurement of the Peach is mildew, one of the *Oidium*s, but not definable from there being neither conidia (summer spores) nor perithecia (resting conceptacles or "fruits"). It has not done more than destroy the cuticle, producing a sort of rust, not uncommon where water largely impregnated with oxide of iron has to be employed for syringing purposes. We do not know of any application better than dusting with flowers of sulphur, which, however, must be used early so as to prevent rather than suppress the parasite, otherwise the skin will be impaired in appearance, and the fruit prevented swelling properly. The fruit, No. 1 is Royal George, and No. 2—the light one—Noblesse.

Spotted Grapes (G. H.).—The Grapes are certainly spotted, but not by disease. It is the injury caused by moisture deposited on the berries, and this arrested evaporation causes the destruction of the cuticle, then air being given, the injured cells part with their moisture, and a shrunken place is the consequence. Some call it a case of over-heating at a critical period, but it occurs most in houses that have been or are kept at a low temperature, and the sun allowed to act on the house so as to raise the heat suddenly and to a high degree. It can only be avoided by admitting some air constantly, increasing this early in the morning when the sun shines powerfully, so as to prevent the atmosphere being suddenly becoming highly heated. Under the routine advised we have not known Grapes scald, even in a "cold house." There is no cure, but the worst damaged berries should be cut out. Ventilation is the chief preventive, a little air being admitted all night, and increased early on fine mornings.

Cucumber Plants Failing (Waltonian).—The reason of the Cucumbers failing in the two houses, and of the late Melons being similarly affected, is, if like the specimen submitted for examination, attack by root-knot (celworm) (*Heterodera radiculicola*). The pest existed in all stages of development, and very characteristic of a bad case, the whole of the cellular tissue of most of the roots, and nearly all that of the root stem, being destroyed. There is no possibility of remedy in such case. The only thing that can be done is to prevent the mischief spreading by pulling up the plants, with as much root attached as possible, and at once plunging them in boiling water. This we have found better than carrying the plants outside for burning, as some of the animals may be scattered, and the infection carried by the basket. Then scald the whole of the house—woodwork, walls, floors, beds, giving the latter a thorough soaking. This we have found by experiment to destroy the eggs, larvæ, encysted, gravid, or free eelworms, as illustrated by Mr. Dyke in the *Journal of Horticulture*, October 29th, 1896. If the soil be regarded as exhausted, it may be cleared out bodily. The whole of the walls and bed should then be again scalded, afterwards limewashing the walls, and giving the bottom of the bed a good coating of the lime water. The eelworms appear to dislike the lime on the inside of the bed-walls and at the bottom of the pit, and it acts in some degree as a safeguard against attacks from without. The fresh soil should be scalded before it is placed in the house, and this may be repeated afterwards before planting. When not taken out the scalding of the soil may be followed, after it becomes fit for working, with a dressing of best chalk lime, freshly burned and slaked, using at the rate of 2 lbs. (when unslaked) per square yard. Leave this on the surface overnight, then fork in carefully, taking small spits, so as to mix as evenly as possible to the depth of the bed, making fairly even in surface. Then sprinkle on kainit, half-pound per square yard, and leave this overnight, turning under the following day, and mixing evenly as in using the lime. In the course of a month or six weeks certain changes will have taken place, and the soil will be again fit for use. This is drastic treatment for infested soil, such as the case under consideration. For ordinary soil half the amount of lime and of kainit may be used, it being advisable to employ them along with the turf in stacking, allowing to lie until the herbage is killed, adding also soot equal to the lime. A soil mixture thus prepared has been found serviceable where celworm was troublesome before, and it did not recur. The quantity is for the ordinary depth of bed soil—10 to 12 inches. For the Melons you may probably find a solution of soluble phenyle (Little's) useful, a fluid ounce being added to 3 gallons of soft water, and an ordinary watering given. It will certainly arrest the eelworm, and probably enable the plants to mature their crops. We sympathise with you, and hope the foregoing may be of some service.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (K. W. G.).—We believe the cone to be that of *Abies nobilis*, but cannot say definitely in the absence of foliage. (J. C.).—1, *Oontoglossum citrosimum*; 2, *Bambusa Fortunei*. (R. H. M.).—1, *Campanula persicifolia*; 2, *Alstrœmeria aurantiaca*; 3, *Phalaris arundinacea variegata*, the Ribbon Grass (*Fern Lover*).—1, *Adiantum formosum*; 2, *A. amabile*; 3, *Selaginella Wildenovi*; 4, *Nephrolepis davallioides*; 5, *Polypodium aculeatum*; 6, *Ceterach aureum*. (F.).—*Campanula lactiflora* (poor form), it is a herbaceous perennial.

COVENT GARDEN MARKET.—AUGUST 17TH.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve ...	0 0	to 0 0	Grapes, lb....	1 6	to 3 0
Cobs ...	0 0	0 0	Lemons, case ...	11 0	14 0
Filberts, 100 lbs. ...	0 0	0 0	St. Michael's Pines, each	2 6	5 0
Gooseberries, $\frac{1}{2}$ sieve ...	1 6	2 0	Strawberries ...	1 6	3 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0 0	to 0 0	Mustard and Cress, punnet	0 2	to 0 4
Beans, $\frac{1}{2}$ sieve ...	0 0	0 0	Onions, bushel ...	3 6	4 0
Beet, Red, doz. ...	1 0	0 0	Parsley, doz. bnchs....	2 0	3 0
Carrots, bunch ...	0 3	0 4	Parsnips, doz. ...	1 0	0 0
Cauliflowers, doz. ...	2 0	3 0	Potatoes, ewt. ...	2 0	4 0
Celery, bundle ...	1 0	0 0	Salsafy, bundle... ..	1 0	0 0
Coleworts, doz. bnchs. ...	2 0	4 0	Scorzonera, bundle ...	1 6	0 0
Cucumbers... ..	0 4	0 8	Seakale, basket... ..	1 6	1 0
Endive, doz. ...	1 3	1 6	Shallots, lb. ...	0 3	0 0
Herbs, bunch ...	0 3	0 0	Spinach, pad ...	0 0	0 0
Leeks, bunch ...	0 2	0 0	Sprouts, $\frac{1}{2}$ sieve ...	1 6	1 9
Lettuce, doz. ...	1 3	0 0	Tomatoes, lb. ...	0 4	0 9
Mu-hrooms, lb. ...	0 6	8	Turnips, bunch... ..	0 3	0 4

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blooms ...	3 0	to 4 0	Marguerites, doz. bnchs.	1 6	to 2 6
Asparagus, Fern, bunch... ..	2 0	3 0	Mignonette, doz. bnchs. ...	1 6	3 0
Bouvardias, bunch ...	0 6	0 9	Myosotis, doz. bnchs. ...	1 0	2 0
Carnations, 12 blooms ...	1 0	3 0	Oreids, var., doz. blooms	1 6	9 0
" 12 bnchs. ...	4 0	8 0	Pelargoniums, doz. bnchs.	3 0	6 0
Eucharis, doz. ...	3 0	4 0	Polyanthus, doz. bnchs....	1 0	1 6
Gardenias, doz. ...	1 0	4 0	Pyrethrum, doz. bnchs. ...	1 0	1 3
Geranium, scarlet, doz. bnchs. ...	0 0	6 0	Roses (indoor), doz....	0 6	1 6
Iris doz. bnchs. ...	4 0	6 0	" Red, doz. ...	0 3	0 6
Lapageria (white) ...	1 6	2 0	" Tea, white, doz. ...	1 0	2 0
" (red) ...	1 0	1 3	" Yellow, doz. (Perles)	1 0	2 0
Lilac (French), bunch ...	3 6	4 0	" Safrano(English)doz.	1 0	2 0
Lilium longiflorum, 12 blms	3 0	4 0	" Pink, doz. ...	1 6	3 0
Lily of the Valley, 12sprays	1 0	2 0	" Moss, per bunch ...	0 9	1 0
Maidenhair Fern, doz. bnchs. ...	4 0	8 0	Smilax, bunch ...	1 6	2 0
			Sweet Peas, doz. bnchs. ...	1 6	3 0

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6 0	to 36 0	Heliotrope, doz. ...	4 0	to 6 0
Aspidistra, doz. ...	18 0	36 0	Lilium Harrisii, doz. ...	12 0	18 0
Aspidistra, specimen ...	5 0	10 6	Lobelia, doz. ...	3 0	4 0
Coleus, doz. ...	3 0	4 0	Lycopodiums, doz. ...	3 0	4 0
Dracæna, var., doz....	12 0	30 0	Marguerite Daisy, doz. ...	6 0	9 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	4 0	6 0
Erica various, doz. ...	12 0	24 0	Musk, doz. ...	2 0	6 0
Euonymus, var., doz. ...	6 0	18 0	Myrtles, doz. ...	6 0	9 0
Evergreens, var., doz. ...	4 0	18 0	Palms, in var., each ...	1 0	15 0
Ferns, var., doz. ...	4 0	18 0	" specimens ...	21 0	63 0
" small, 100 ...	4 0	8 0	Pelargoniums, scarlet, doz.	4 0	6 0
Ficus elastica, each ...	1 0	7 0	" " " " " " " "	8 0	10 0
Foliage plants, var., each	1 0	5 0	Rhodanth, doz. ...	4 0	6 0
Fuchsia ...	5 0	8 0			



BIG RECORDS.

WHEN we take up a map of England we have no hesitation in at once pointing to the largest county—viz., Yorkshire. When we look for the second largest we hesitate a moment, hardly sure whether to point N.E. to Lincolnshire or S.W. to Devon. Perhaps Devon has it in acres; but we doubt, if it comes to a question of tilling, whether Lincolnshire has not the greater acreage under cultivation. Both are purely agricultural counties; but the systems are utterly different, as suited, of course, to the divergence of climate. South country friends associate Lincolnshire with fens, bogs, and ague. Well, with the abolition of fens and bogs went the ague, and also the race of web-footed men and women who were supposed to inhabit them. Strangers would be astonished to see the bold outline of our range of wolds—the cliff country so celebrated for its peerless Barley and the woodland scenery of the northern parts.

Those who are fond of statistics will read with interest that the

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UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—Secretary, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—Secretary, Mr. A. F. Barron, The Royal Gardeners' Orphan Fund, Chiswick, W.

largest farm in the United Kingdom is situated in Lincolnshire—"Withcall," on the chalk wolds between Louth and Lincoln. The parish of Withcall means the farm, as it is one—2600 acres. It requires a large capital and a large mind to work such a place. It has been celebrated in the annals of farming for many a long year. A field of 350 acres all Turnips! An annual bill for bones of about £1800!

This woldland farming is of a totally different style to anything seen in the south. Sheep and Barley are the mainstays, and as the Turnips are eaten on the land the Barley has every chance of being a good crop. For many years, we believe, this farm was the property of the Chaplin family, and records exist of the tenant appearing at Blankney to pay his rent driving his own coach and four. This tenant left a fortune. Times were better then than now.

On farms of this description beasts are fed principally on straw and large supplies of oil cake. Where seventy cart horses find regular employment one is not surprised to find horse-breeding is a necessary feature. Fortunately for Withcall the railway runs through it, and thus makes export and import an easier matter than it used to be in days of old. It then passed to Mr. Nathaniel Clayton, and no money or labour was spared to make the farm as profitable as it was in those bygone days when the tenant drove four-in-hand.

We leave Withcall, and record some doings of other men in the N.E. corner of Lincolnshire. The Shorthorn of Durham did not long confine itself to the limits of that county, and perhaps one of the most noted herds of late years has been the one that found its home at Aylesby, and that owed its formation to the late William Torr—better known as "Awd Billy Torr." This clever but eccentric old fellow was noted as well for his Lincoln Long Wools, but it was left to his executors to record the highest average and the highest individual price for a Shorthorn cow ever known. This was in the seventies. He had no son, but had been wonderfully helped in his farm management by a young man called C. W. Tindall.

In process of time a landowner of N. Lincs. conceived the idea of founding a Shire horse stud, in the first place to supply a long-felt want, and in the second to afford himself a pleasant and profitable recreation. He had, like all breeders, his ups and downs, and there were those among us who wondered if his agent, Mr. Tindall of Aylesby fame, was as much at home with Shire horses as he had been with Shorthorns.

Presently the stud outgrew the accommodation, and in 1891 the services of Messrs. Sexton & Grimwade were called into requisition, and a sale was held at the Home Farm. When we say that the forty-eight head averaged £198 17s. 3d., and that "Starlight," the champion mare, fetched 925 guineas, outsiders will not be surprised to hear that this average has yet to be beaten.

Earlier in this paper we made mention of sheep as being the great stay of the Lincolnshire farmer. Lincoln Long Wools are noted the world over. They are despatched to every country and every colony where sheep raising is practicable.

Their constitution, their wool, and their mutton are incomparable, and the diligent reader of agricultural papers will recall at once the honoured names, that are now household words, of celebrated Lincoln ram breeders—Dean & Sons, Casswell, Kirkham, Clarke of Scopwick, Clarke (Sleaford), and, last and greatest of all, Henry Dudding of Riby Grove.

This year, July 19th, saw the sale at Riby of fifty-two yearling rams. There had been a good deal of speculation as to what prices would be realised, and it was confidently expected that one of them would fetch at least £500.

The morning of the 19th rose dull and threatening, but the animals were there, and, what was more to the point, the buyers too, with full pocket-books. The foreigner was much in evidence, and before the day was over secured Riby's Gem for the unprecedented sum of 1000 guineas! It is to be exhibited at Buenos Ayres in August, and we are only too thankful that we are not responsible for his safe convoy to that distant port. However, he will let the S. Americans see that old England is not yet played out.

Another yearling still made 310 guineas, and another 235 guineas. The grand total was reached of £4521 6s., an average of £86 19s., and mind this is for sheep, not for horses. So Lincolnshire has surpassed herself—the best average at a shorthorn sale, William Torr; the best average at a Shire horse sale, R. N. Sutton-Nelthorpe; the best average at a Lincoln Long Wool ram sale, Henry Dudding.

We are not of a racing stock, but still feel constrained to note that the grand old Derby winner, Hermit, was owned by a Chaplin and stood at Blankney.

WORK ON THE HOME FARM.

Having been burnt up for three weeks with sun heat and drying winds, we are now ready to complain of too much rain. It has fallen very heavily at very short intervals, and as it has been accompanied by strong lashing winds, the corn crops are almost universally laid.

Whereas machine agents, who had been selling self-binders, have received numerous requests for orders to be cancelled, the labourers, after running round almost in vain to seek a job, are now much in request. As we have only noticed one small gang of Irishmen seeking harvest work, it seems likely that the harvest labour pinch, which we have long foretold, may soon be a reality.

We are getting on well with weeding Turnips. We are sending Elephant Potatoes to market; the quality is good, but the quantity must be short owing to the drought. The later kinds of Potatoes are now doing very well, and must be a good crop. A few big weeds are beginning to show, and must be pulled out before getting any higher.

The rain has immensely benefited the pastures, and aftermath should now make a good growth. One effect of this is seen in the stock markets and fairs; lambs are 5s. dearer on the week, and all kinds of store stock decidedly firmer.

Now will come a difficulty in keeping lambs healthy; all kinds of green food will be too succulent for the stomach of the young animals, and must be supplemented by medicated lamb food to assist digestion. Constant change of pasture is very beneficial, and a few hours in the lanes is a good thing. Bramble leaves are a fine tonic, and lambs should have every chance of getting to them where they are available.

Until the fog or aftermath gets well grown and past the frothy stage, old pasture, which has been summer grazed by cattle, is the safest food for lambs.

Cabbage required for use next summer should be sown now at once. The land is in fine order, and the young plants will soon be up.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1898. August.		Barometer at 32°, and Sea Level	Hygrometer		Direc- tion of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Tempera- ture.		
			Dry.	Wet.			Max.	Min.	In Sun	On Grass	
		inches	deg.	deg.		deg.	deg.	deg.	deg.	inches.	
Sunday	7	29.813	53.8	51.4	N.E.	52.5	56.2	51.4	74.4	49.0	0.694
Monday	8	29.745	54.8	52.8	N.E.	59.6	64.6	45.9	97.2	42.2	—
Tuesday	9	30.071	59.3	54.1	N.	58.9	69.1	48.2	113.3	44.6	—
Wednesday	10	30.171	59.9	55.3	S.W.	59.2	67.2	50.9	95.9	46.4	—
Thursday	11	30.231	66.0	60.9	W.	59.9	80.8	58.4	120.0	56.8	—
Friday	12	30.087	74.3	64.6	S.	61.9	86.1	53.7	126.1	50.2	—
Saturday	13	29.995	71.2	65.3	W.	64.1	85.3	63.1	127.0	58.6	—
		30.016	62.8	57.8		59.4	72.8	53.1	107.7	49.7	0.694

REMARKS.

- 7th.—Dull early; cold with incessant rain from 8.30 A.M. to 4.30 P.M., then sunny till sunset.
8th.—Overcast and cold throughout, and rainy from 5.30 till 9 A.M.
9th.—Fine and pleasant with frequent sunshine, but threatening cloud at times; halo at 6 P.M.
10th.—Generally overcast, with a slight shower at 9 A.M.
11th.—Fine and sunny throughout, but hazy.
12th.—Sunny and hot throughout.
13th.—Occasional cloud, but generally sunny and hot.

A very remarkable week, the temperature being very near the average, but composed of (writing from memory only) a remarkably sudden rise of temperature. Sunday, August 7th, was like what we often have in winter; for instance, very much the same as the 16th of last December, whereas Friday and Saturday were thoroughly hot summer days. In absolute heat they have often been surpassed, but to pass from a December day to not merely an average summer day but to a group of hot ones has been very trying.—G. J. SYMONS.

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Journal of Horticulture.

THURSDAY, AUGUST 25, 1898.

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HARDY NYMPHÆAS.

ONE of the most remarkable of the horticultural developments of the past two or three years is the growing intensity with which the cultivation of aquatics is being pursued, especially that of the hardy Nymphæas. This is the direct result of the distribution to the world at large of the beautiful varieties that have rewarded the efforts of Monsieur Marliac. That he should have obtained such results is more than surprising, when we consider the materials which were available for him to work upon; and the origin of some of the colours is most mysterious—whence come the very rich and dark hues of various shades of red in such varieties as N. Ellisi, gloriosa, ignea, or Marliacea flaminea? Almost equally to be wondered at is the vigour of growth, freedom of flowering, and rapid increase of some varieties, which in these respects, as well as in the colour of the flower, certainly surpass the previously existing kinds.

A pond or lake can now be transformed into an interesting, and indeed fascinating flower garden, in which even the florist might find scope for his energies, but which to the earnest gardener will afford the fullest opportunity for adding to the beauty and picturesque charm of his garden. By the judicious planting and arrangement of these Water Lilies the attractiveness of the vicinity of a lake may be increased, and even pretty landscape effects and distant views obtained.

Doubts have frequently been expressed as to the hardiness of these new varieties. During the spring of 1894 twelve small plants, obtained from the Continent, were sunk in shallow water in the lake at Gunnersbury House. The following winter was most severe, the thermometer falling to 6° Fahrenheit. The Lilies received no protection whatever, but remained where they had been placed in the spring, the water being frozen about them to the bottom of the lake. They have therefore experienced 26° of frost under the most exposed conditions, and as they passed through the trying ordeal unharmed (with the exception of an old variety, known to be only semi-hardy) there can be no question about the hardiness of these new

varieties. Others have been planted at Gunnersbury House year by year since that time, and have flourished exceedingly, not one having been lost. The variety referred to above as being killed by the severity of the winter of 1894-95 is *N. flava*, which is a native of Florida.

The position chosen for Water Lilies must, as a general rule, be fairly well exposed to the sun. The water in which they are to grow will thus be warmer on the whole, and the shade of trees will be avoided, which would be deleterious in its effects on the growth. However, there are one or two of the lesser known varieties which flower well in the shade.

The water itself should be more or less quiescent. Running water is much less warm than still water, other conditions being equal. It may be observed that *N. alba* growing in our native streams does not flourish in places where the water is running rapidly, but rather in back-waters or broad reaches where the water is comparatively quiet. The depth may vary from 6 to 18 inches, the former for miniature varieties—e.g. *N. pygmæa helvola*, and the latter for the very vigorous ones—e.g. *N. Marliacea albida*. In greater depth than this the stronger varieties may be seen to flourish. A position should be selected, if possible, where the bottom is covered with a depth of a few inches of pond mud. The roots luxuriate in this as soon as they reach it.

Water Lilies may be grown with success in tanks and fountain-basins. Cultivated in this way they are a most interesting feature of the garden at Burford Lodge. The proceeding is quite a simple matter. Once planted under suitable conditions they will require no further attention until they become too thick and require dividing, unless it be to remove pondweed and sticks, which may have collected round them. Waterfowl and water rats are sometimes troublesome. Picking off dead blooms, instead of allowing the seed to ripen, will make the plants flower the more freely. They should not, in the first instance, be simply dropped into the water, but put into baskets with plenty of soil, and then sunk into the desired position. The sides of the baskets must be woven closely enough to hold the soil well. This may be prepared as for plants in pots, good loam and decomposed leaf soil, with old Mushroom bed refuse, for example. The addition of some road grit, and a free use of bonemeal, will suit them very well. The plant must be well covered with soil; its roots will be thus protected. They will at once grow rapidly, and the roots will extend through the basket into the pond mud below.

At different times I have noted these new hardy varieties in the tanks of Lily houses, chiefly in botanic gardens, and have naturally compared them with those grown in the open air. Whatever the cause may be, the comparison is decidedly in favour of treating them as hardy plants. Out of doors any given variety grows more strongly, flowers more freely, and produces larger leaves and flowers. The effect on the colour is also marked, the hothouse making it paler and less attractive. The effect seems to resemble that of transferring an Englishman to the tropics.

The period of flowering is extensive, and is practically co-terminous with the summer months. Some varieties commence to flower even before the end of May, nearly all will continue into September, and, if the weather is favourable, some will be producing good blooms even in October. They are at their best in July and August, and will at this period sometimes remain open until six o'clock or later in the evening. To secure this hot sunshine is not necessary; it rather takes place when the weather has been dull and showery.

It is perhaps worthy of note that Water Lilies may be effectively used as cut flowers. If the cut blooms are floated in a large vessel or fountain, with their own foliage, an exceedingly pretty effect is produced. If placed in plenty of fresh water they will thus last for several days. For cutting only young flowers should be selected, and if it is desired that they remain open in the evening, the outer petals may have to be reflexed. They can also be used effectively in the base of an epergne.

Before the advent of the new varieties of Mons. Latour-Marliac

there were few hardy *Nymphæas* under cultivation; they included that well-known and beautiful native water plant, *N. alba*, its variety *N. alba rosea*, *N. pygmæa*, *N. odorata*, *N. odorata rubra* (syn. *N. o. rosea*), and *N. tuberosa*. Concerning the latter we will write more particularly before proceeding to describe the newer and choicer kinds.

N. ALBA is too popular and too familiar to all to need detailed description. Its leaves are deeply cordate and glabrous, in colour a rich deep green, and generally 6 to 9 inches in diameter. The flowers are usually on the surface of the water, and are quite white and scentless. Their size is about 4 or 5 inches as to diameter, but when cultivated in rich pond mud the plant grows much more luxuriantly. Its leaves will be 12 inches in diameter and its flowers more than 6 inches; the leaves will be borne high above the surface of the water, coming up so thickly as to push one another out of the water; the flowers are also pushed out of the water, but not so high as the leaves, and are consequently hidden. When this happens, it is necessary to break up the groups and to replant. This variety is very widely distributed. It may be found throughout Britain, growing in slow rivers, and in lakes or any still water, even at considerable elevations above the sea level in mountain tarns; its distribution extends over the whole of Europe and Northern and Central Asia, though there are particular localities in which it is not found.

N. ALBA VAR. *ROSEA*, syn. *N. Caspary*, is a rose-coloured variety of *N. alba*. It is found growing in lakes in the Scandinavian peninsula, whence it was introduced to this country about a generation back. It is by means common, and does not spread with anything like the rapidity of *N. alba*. It commences growth early, and is one of the first to come into flower. Its colour is a soft rosy pink, and the size of the fully developed flower is much less than that of the white variety, being only about 3 or 4 inches across; neither is it so free-flowering as one would desire. It is very distinct, this characteristic being displayed not only in the flower, but in the period at which the plant dies down. It is at its best in June, and by the end of July its season is over; no more flowers are produced, and the leaves gradually disappear before *N. odorata sulphurea* is beginning to produce its first flowers. This habit seems to be unique, occurring only in this variety.

N. TUBEROSA is a variety of great vigour, producing an abundant quantity of white flowers 8 inches across, and very pure in colour. The habit, foliage, and flowers are more robust than even in the case of *N. alba*, and the exceeding vigour of the "*Marliacea*" varieties has probably had its origin here. In fact, *tuberosa* might be substituted for *Marliacea* in the names in this section, in which case they would be called *N. tuberosa albida*, *N. t. carnea*, and so on. It takes its name from the oblong tubers, which are borne upon the creeping rootstock. It comes from the north-eastern part of the United States of America.

N. PYGMÆA is aptly described by its name, "pigmy." Its smallness seems to increase its beauty; it is truly a charming variety. The leaves and flowers are both small; the latter are white, and have a comparatively small number of petals. Its attractiveness is increased by a pleasing fragrance. Its native habitat is China and Siberia, whence it was introduced in the early part of the present century. This, and its yellow variety *N. pygmæa helvola*, are well adapted for growing in small pools in a rockwork, the small corners of a fountain basin, or any space of limited dimensions.

N. CAROLINIANA is a pale pink variety from North America.

N. ODORATA is white, sometimes tinged with rose, similar to *N. alba*, but smaller, and is a native of North America. It has not succeeded very well here, and seems to be a shy flowering variety. In fact, this is a characteristic of most of the *odorata* varieties.

N. ODORATA MINOR, or *pumila*, is a smaller variety of the preceding. It is of slender growth.

N. ODORATA RUBRA, syn. *N. o. rosea*, is a natural rose-coloured variety of *N. odorata*, found in North America, and is known as the Cape Cod Water Lily. The flowers are tinged with pink in a pretty way, and the colouration is quite constant, deepest at the base of the

petal, growing regularly fainter to the tip, which is almost white. It is of moderate growth, and is usually in flower during the season, though never profusely.

Let this suffice as a survey of the Water Lilies available for outdoor culture before M. Latour-Marliac began his experiments in hybridising, which have been crowned with such remarkable success.
—JAMES HUDSON, *Gunnersbury House Gardens*.

(To be continued)

TREATMENT OF HEDGES.

WHERE evergreen or deciduous hedges exist in gardens regular and systematic attention ought to be given in order to maintain them in the best possible form and condition. Good hedges in many cases take the place of walls or other fences, and if so employed the necessary trimming must be annually carried out, not only for their appearance, but for the subsequent benefit of the plants or shrubs. A long-neglected or unkempt hedge may, in certain circumstances and positions, be picturesque; but such a condition of things could not be tolerated within the confines of a well-tended garden. Besides hedges cease to be hedges when they are not clipped and trimmed at least once annually.

Holly, Barberry, Privet, and Thorn hedges are frequently clipped twice or three times during the season. It is an excellent practice, as it tends to maintain a compact, thick growth. When hedges are only clipped once in the season the best time is from the middle to the end of August. Growth has then so far advanced for the season that after the trimming no further growth will take place that year, and the closely cropped appearance, whether the hedge is evergreen or deciduous, will be maintained until next year's shoots push forth. When earlier clipping is practised the first operation may be performed when the shoots have advanced 4 to 6 inches and are quite soft, the next when the fresh shoots which push have attained to a similar length, and the last in September.

For all hedges which produce close growing shoots, such as Holly, Yew, Furze, Hawthorn, Privet, Barberry, Tree Box, the trimming may be done with hand shears, this tool performing the work in a neat, expeditious manner. Hedges formed of Laurel, Bay, Laurustinus, and Beech, which do not send out shoots so numerous, having larger leaves, must have the strongest growths shortened with the knife. This will insure a close, even surface of foliage, if all the strong shoots are dealt with immediately they become prominent.

Late autumn clipping is more difficult, by reason of the shoots becoming thoroughly ripe. It also entails a waste of force, which might have been concentrated on smaller and more numerous growths. Clipping should be carried out very close to the points where the last trimming took place. Frequently in the case of pruning with the knife it is possible to go further back, more especially when the shoots proceed from a good base of leaves. In preventing the upper shoots becoming long and strong, the growths near the base have a better chance of developing and furnishing the bottom, which is liable to become bare.

Cut all the most important hedges with exact care and precision so that both sides and top present an even surface. Hedges, as a rule, ought to have a broad base and a narrow top. Some of the best formed examples have tops tapering to a point, while in others the tops may be nearly or quite as wide as the base, but it is never desirable that the upper parts of a hedge should exceed the base in width.

Hedges unsightly and out of shape ought to be pruned into form if a permanent improvement can be effected, even at the risk of causing a patchy appearance for a time. This will not be very apparent in winter with deciduous hedges, but it may with evergreen. The best time, therefore, to prune the latter into shape is in spring, when fresh growths will soon push. Those that do so strongly may be shortened back early, so that weaker and more numerous shoots may be encouraged, for the better furnishing and filling-up of the gaps made.

Well managed hedges are not only ornamental, but eminently useful as screens of a pleasing permanent character from undesirable objects or structures which may overlook the quieter and artistic portion of a garden. They act as natural protectors and barriers against the onrush of rough winds from exposed quarters, and they give an air of dignity, refinement, and grace when they have been established in just such positions that nothing could have taken their place better.

In my opinion one thing should be guarded against in the treatment of hedges—that is, the establishment of fanciful growths here and there, rising above the hedge proper. Such detract from rather than add to the effect.—E. D. S.



ROSA WICHURAIANA.

FIVE years ago this pretty little species was practically unknown in English gardens; since that time, however, it has gained a good share of well-deserved attention from lovers of the genus. It is of Chinese and Japanese origin, and was introduced to English gardens through the United States. It is quite distinct from any other Rose, and is readily recognised by its dwarf spreading habit, and also by its bright glossy green leaves. It grows quickly, shoots 12 feet long often being made in one season. These are quite prostrate, and from them upright flowering shoots are borne from July to September.

When covered with clusters of pure white, sweetly scented flowers a charming picture is made, especially where a large group has been planted on a bank or hill side. For such positions it is particularly well adapted, both from its free-flowering qualities, neat habit—rarely exceeding 1 foot in height when in flower—and almost evergreen foliage. It is now being crossed with other species to endeavour to obtain a variety of colour with the dwarf habit of this species. If the hybridist is successful a distinct break from all existing classes of Roses will be obtained. Several groups are to be seen in flower at Kew, a large mass near the Oak collection being particularly fine.—D. K.

COMTESSE DE NADAILLAC.

I THINK this fine old Rose has a much more robust constitution and habit than it is generally credited with. I send a bit of wood cut 6 feet from the ground from an old plant over ten years old, which shows that Nadailac can grow when she likes. I have eight or nine more plants with this one on a west wall, all over seven years old, and I look upon them as the most reliable Teas I have.—J. T. STRANGE, *Aldermaston*.

[The growth sent was excellent—far better, indeed, than is often seen on varieties that have the reputation of being superior growers to Comtesse de Nadailac.]

VISIT TO UPLANDS.

ON Friday, August 12th, I made my long promised visit to Messrs. Alex. Dickson & Sons' branch nurseries at Uplands, two miles distant from the picturesque town of Ledbury, which I reached after an almost gradual ascent. The district devoted to Rose culture (about 17 acres) is situated on an undulating high table-land facing N. to S., and although open and quite exposed is admirably sheltered from mildew-fogs or biting frosts; indeed, I may say I never saw a Rose plantation so late in the season with so little mildew. The H.T.'s were absolutely free from even a suspicion of this universal pest, while the height of the surface-rooting Elms and deep-rooting corn (the latter sadly laid by late storms) showed that a wise choice had been made of a nursery for Roses.

This branch establishment has been only carried on by its present manager for about four years, so, as may be supposed, only a part of the ground is under Roses, but quite enough meets the eye at the first glance to show that not only a pleasing picture faces you, but an instructive book lies open for your inspection, full of valuable stores of information, to be again and again profitably referred to—all before you is clean and in the highest state of cultivation.

The Pedigree Seedling Roses, to which Messrs. Alex. Dickson and Sons have for the last twenty years so successfully given their attention—nine gold medals have been awarded to the firm in as many years—were thoroughly well represented at Uplands on the occasion of my visit. The Hybrid Teas, Teas, and a comparatively small number of their new H.P.s, notably the grand Ulster, gold medalist of 1897-8, were planted in long rows each 180 yards, which presented a striking effect directly the grounds were entered. The contrast with a large plantation of the leading exhibition varieties being at once apparent—the former carrying an abundance of bloom, freshness of foliage, and wealth of colour—a *coup d'œil* difficult to describe, through the entire length of the rows; while the latter were—well, as Rose gardens generally are at this time of the year—unsightly in foliage and only here and there in flower. Still more was the contrast marked when a close inspection revealed the symmetry and luxuriance of the plants and flowers, many of the varieties pleasing acquaintances one made at the leading Rose shows.

I confess, with so many paragons of perfection before me, most of them blooming so profusely, to a feeling of apprehension how I could do justice to the raisers, and in a short description be any help to the public, who had not the opportunity I was having of seeing their favourites "a growing and a blowing" by the hundred in their home quarters.

The first characteristic, I repeat, was the unusual floriferousness of Messrs. Dicksons' Roses; next, their robustness of habit, and, with few exceptions, distinct fragrance. Chatting over these facts to Mr. Drew, he replied, "The reason simply is this, that our firm never offers a new Rose to public notice until its character has been thoroughly and in every point established. If, after being tested over and over again, the seedling (or sport) fails in constitution or size, shape, or other quality of bloom, however eligible in other respects, it is discarded. I believe this to be the great secret of our success."

I had noticed several varieties—some named, some not yet named—when on my asking for particulars as to some special features which had drawn my attention, Mr. Drew replied, "I would rather not have such or such varieties commented on, if you please. It is, as you say, superb in colour or shape (as the case may be), but as yet we do not consider its constitution sufficiently satisfactory, so a longer trial will be given."

To enumerate a few undoubted acquisitions now before the public, or shortly to be so. Mrs. W. J. Grant will take a leading place; it will be long before I forget the sight of those 850 plants, nearly all in flower—that long thin ray of roseate light under the warmth and radiance of a charming evening. Alice Lindsay I may be allowed to commend, though not in commerce. Our leading amateur, who was here lately, must have been highly pleased with it. Lady Moyra Beauclerc struck me as very distinct, of thorny and strong habit. And here I must not omit noticing Mrs. Conway Jones—as first named at the Hereford Rose Show—a rich lake colour, and, I should say, autumn bloomer. But the two varieties which for general effect struck me most—an impression certainly not lessened on stooping down to pay my homage to their charms—were Lady Clanmorris and Alice Graham, the former of a pearly whiteness, of great size and substance, as proved by hundreds of blooms, while the latter requires the poet and painter combined to do anything like justice to its perfections—a glowing carmine centre nestling in a bowl of purest white.

About this time I began to think Mr. Editor would have had enough of me, so I ventured again to ask Mr. Drew which of his many treasures, I had or had not commented on, he would like recommended to the public. "Well," he replied, "let me answer you indirectly, but yet giving you my candid opinion. If I were in the unhappy position of only growing twelve Roses I should certainly include Bessie Brown and Mrs. Edward Mawley." I can quite understand the manager's rapture over Bessie Brown (I had not yet come to it), clearest of whites, immense substance, and of exquisite fragrance. I know no Rose like it in the latter respect. Of Mrs. Edward Mawley I had not the same chance of forming an opinion, as over 800 buds had just been cut and forwarded to Newtownards.

One noticeable feature in the nurseries is the decided, I may say almost superabundant number of pink Roses. Evidently pink Roses are the best breeders, while dark Roses, which are much wanted, especially by exhibitors (Oh! that they would travel better), are in a minority, and require much extra time for trial before being sent out. There are several I saw at Uplands, however, which I venture to predict will be worthy successors of the Earl of Dufferin.

So much for my sketchy notes on this successful firm of Rose nurserymen. I had a grand opportunity of judging the Roses in the bulk, as there were thousands in bloom, though a more practised pen could have descanted more convincingly on the merits they to demonstration possessed. I was much struck as I left, with a large and strong plantation of standard Briars, too strong in fact for the H. T.'s and Teas; they have been reserved for the H.P.'s. Noticeable also were two most useful breadths of seedling and cutting Briars, foster parents to the rosey treasures, in whose company I have spent on a perfect evening for warmth and light a couple of the pleasantest hours I have done for some time, not the less enhanced by the kind hospitality of Mrs. Drew and her popular husband, to know whom, in his business or private capacity, is to esteem.—HEREFORDSHIRE INCUMBENT.

EXPERIENCE WITH STRAWBERRIES.

I AM glad to give my Strawberry experience for small amateurs. I have now settled down to three varieties only, all raised by Messrs. Laxton—No. 1, Royal Sovereign, and Latest of All—and from these I had abundance of the finest Strawberries in the open for over six weeks. The first early is the weak point. It is a good thing to know what we want, and what is now required is a Strawberry a little earlier than No. 1, and equal in size, quality, and productiveness to the best midseason varieties. It will be done, no doubt, sooner or later. I can remember the time when first early Peas were so small as hardly to be worth eating.

I am obliged to find one fault with Royal Sovereign—the leafage is so abundant, and the leafstalks so long and pliable, that when a long continued rain comes at the time the Strawberries are ripe the masses of fruit hidden under the beaten-down wet foliage do not get

a fair chance of drying when the rain is over, and are liable to decay wholesale. At the same time the flowers are very susceptible to frost even before they are expanded, so that these long and abundant leaves are necessary for their protection. The crop is so heavy that I find no gap between it and Latest of All, which I like very much with its short sturdy leaves, its excellent flavour, large size, and abundant produce.—W. R. RAILLEM.



CYPRIPEDIUM OLIVIA.

At the meeting of the Royal Horticultural Society held in the Drill Hall on Tuesday the 9th inst., Messrs. H. Low & Co., Bush Hill Park Nurseries, Enfield, showed C. Olivia, which is admirably represented in the woodcut (fig. 26). This Cypripedium is a hybrid that resulted from a cross between C. niveum and C. tonsum, and it is of chaste beauty. The form of the flower is handsome, but the delicacy of its colour is perhaps its chief merit. The dorsal sepal is of great breadth, the ground colour being cream with a greenish-white patch at the base. The petals are cream with a pink suffusion, and have occasional small brown spots. The fine pouch is of a similar hue. The Orchid Committee recommended an award of merit.

ONCIDIUM LANCEANUM.

THE blossoms of this fine Orchid are charming, the beautiful combination of greenish yellow with chocolate-brown on the sepals and petals, and the fine bright rose of the lip, being very uncommon among Orchids. The large deep green spotted foliage, too, is striking, and handsome. The plant bears no pseudo-bulbs, the leaves springing direct from a short rhizome. The plant does best in abundant heat and moisture, and likes a light, almost unshaded position, especially towards the end of the season.

A slight diminution of root and atmospheric moisture is advisable when the foliage is fully grown, and while the plants are at rest in winter very little water at the roots suffices. Baskets suit this species well, and these must be fairly large, in order to prevent as far as possible, or at all events to postpone rebasketing, this always being fraught with a certain amount of danger. For compost it is well to use rather more moss than peat, as it does not so rapidly become close or sour. Drain the baskets or pots well, and keep the base of the leaves a little above the surface of the compost.—H. R. R.

HINTS ON FRUIT.

MR. GEORGE BUNYARD sends us a collection of articles which appeared in the "South-Eastern Gazette" last year, and which he thinks are too good to be lost. He has therefore had them reprinted in the form of a mixed manual, but whether for selling or otherwise is not made clear. He says the contributions are by a "practical man." Of that there can be no doubt, and we are induced to give a few samples. After perusing them our readers will agree that Mr. Bunyard knows the work of a "practical man" when he sees it.

AXIOMS FOR APPLE GROWERS.

I wish I could persuade our home growers to take half the pains and care that Americans bestow on their Apples. A few advanced men are giving this matter their serious attention, and as years go on no doubt we shall improve, but progress is painfully slow. The secret of success may be summed up in a very few words:—"Grow few sorts; keep the trees well pruned and thin the boughs; manure well and intelligently; and pack well." These four axioms thoroughly carried out will in a year or two more than double a man's proceeds from Apple growing, and yet few people appear to see matters in this light. There is one other item in connection with the management of Apples that deserves attention, and that is picking and storing. Of course it goes without saying that the (prudent) man who has gone to all necessary labour and expense in other directions will in no way neglect his fruit at the gathering time.

IMPROVING OLD TREES.

The argument that one is always met with when advocating the better management of orchards and plantations is, "What are growers to do with existing trees of unsuitable kinds?" I would advise such people in two ways. Firstly, cut the trees' heads off, and graft with some approved sort. This can be done to almost any tree, no matter if it is aged, so long as it is not tottering to decay. In the alternative,

severely prune and manure the trees so that the Apples they do grow may be the best possible sample of their kind. There are plenty of trees in the country of the very best kinds that get none of the attention necessary to insure success, and if I could persuade all growers who have such trees to take prompt and proper measures, I am quite convinced I should do a vast deal for British Apple growing.

APPLES DROPPING.

I am told the dry weather is bad for Apples, and that they are dropping off at a great rate. No doubt they do drop a good deal, but it will be found the fruits that fall off are in most cases better off the tree than on, both for the sake of the tree and for the grower too. A very well-known Apple grower told me once that he wasn't satisfied with his plantations if he didn't see a lot of Apples on the ground at this time of year. His contention was that just now the fruit should be growing fast, and, if it did so, as a natural consequence many must be crowded off the trees. If they were not falling my friend was certain he had not sufficient of a crop for them to be touching each other, or the fruit was not growing out as it should do. This is certainly true, and a slight dropping in the Apples now is not a sign of their suffering from drought or anything else. At the same time I have myself seen trees that have no fruit to spare at all, yet the ground beneath is thickly sprinkled with fair-sized Apples. This must be due to unkindliness of some description, probably the after-effects of an attack of insects earlier in the year.

THINNING BRANCHES.

Apple trees, especially young ones from five to ten years old, will pay well now for a little attention with the pruning knife. Our cousins, the Yankees, understand a good many of these matters quite as well as we do, and they always have their trees thinned out immediately after the fruit is picked. The correct plan is to thin out the superfluous central wood so as to admit all the light and air possible to ripen the main branches that are to stand the winter. If done too early in the year the trees will make a fresh shoot, which does harm rather than good. The month of August will be found the best time for this summer pruning.

GATHERING FRUIT.

It will soon be time to think about and make preparations for the ingathering of the keeping kinds of Apples and Pears. This part of the fruit grower's business appears to me to be quite one of the most important operations in the yearly round, and yet it is one that is oftentimes, I may say generally, done in a most slipshod way. The basket must be lined with a piece of old sacking or some similar soft substance, and have a hook attached with which to hang it on to the steps of the ladder, or possibly a limb of the tree. The first few fruits picked should be very carefully placed in the basket, not dropped in, and throughout the whole operation the picker should take care his basket is never violently jolted about, or, in fact, anything done to make the fruits jolt over one another. For conveying fruit to the store, a spring van only should be used.

PACKING APPLES.

I should like to say just a word against the practice of putting the best large cooking Apples in half-sieves. This is very generally done but it is by no means a good plan. A half-sieve of large sized Apples does not contain much more than three or four layers, and in the packing, loading, and general knocking about the sieve gets before reaching its final destination the bottom layer becomes more or less bruised, while the top layer suffers in the same way from the packing sticks, or possibly from the gentle railway porter's hob-nailed boots when he is dancing on the baskets to make them fit the truck. The result is that there is only one, or at most two, layers that arrive at their destination unharmed. If the same fruit is packed in bushel sieves or barrels the bruising is necessarily much less, and the fruit is more saleable in consequence. Dessert Apples are best in half-sieves, but for almost all other kinds the larger package is a great deal the best.

STORING APPLES.

A dark place is best for storing Apples, the ground floor being preferable to one raised, although much excellent fruit has been laid upon the oast-house floors so common in the county, and has done well there. For keeping a long time the fruit should not be laid too thickly, 2 feet to 2½ feet being ample. The thicker the heap the sooner the stage of sweating is reached, and if laid very thick Apples will not survive this process very long. For this reason it is good to lay fruit for rapid colouring and early marketing as thickly as possible. On no account should the fruit be covered till one is compelled to do so to protect it from frost. Wellington Apples are about the most liable of any of our sorts to take harm from careless handling, and at the same time they are one of the most valuable varieties. I would specially caution growers who have any crop of this sort to take great pains with them.

KEEPING FRUIT.

One or two simple rules as to the care of hard fruit when in store are worth mention. On no account place any covering over the fruit. Gathered in a more or less green state Apples and Pears always set up a certain amount of heat, and if this is precipitated on to the heap, instead of being allowed to disperse, decay must follow in a short time. Allow the store room all the air possible. It is not essential to admit any light; in fact the fruit keeps better in a dark place, but during the heating time as much fresh air as possible is desirable. Avoid making dust in or near the room, as when the fruit becomes mellow the skin gets just sufficiently damp to retain all the particles of dust and dirt that may be stirred up in its immediate vicinity. Of course this spoils its appearance; once on, it is perfectly impossible to get dirt off again without spoiling the bloom of the fruit. A slight watering around with an ordinary can having a rose nozzle, every now and then, will help to decrease the trouble, and the damp will



FIG. 26.—CYPRIPEDIUM OLIVIA.

not harm the fruit in the least, even in the store itself; in fact where fruit is kept laid singly for show purposes it is necessary to moisten the floor of the room occasionally to prevent it from shrinking.

NEW AND OLD VARIETIES.

There are one or two points in connection with planting fruit that should never be lost sight of. The first is to as far as possible adapt your kinds to the soil. I am quite aware of the fact that if this rule were rigidly carried out no new kinds would ever get a chance, but I say, "Try new kinds by all means, but only plant a tree or two." Some of our best market sorts will flourish and crop splendidly in stiff, heavy soils, whereas if planted on light, stony land they seldom crop, and the tree refuses to thrive. "Do not plant too many varieties," an acre or two of each kind is none too much, in fact our big growers nowadays have many pieces of 10 acres all one kind. Jumbling up of some dozen or twenty sorts in one plantation is one of the curses of our home-grown stuff. Our friends the Americans know far better than we how to cater for British markets, and they restrict themselves to some six or eight kinds, whereas I suppose our farmers do not stop at 106, many of which are absolutely useless for sale.

CUTTING AND SLASHING TREES.

I should like to say a word against the treatment generally meted out to young trees, both bush fruits and standards, in the matter of pruning. Given a young tree of, say, two or three years' growth that has made a good start in life, your average cutter will prune it just the same—that is to say, he will cut rather more than half the current year's shoot away for the next three or four years of its existence. In this way the tree is certainly kept healthy, but it practically does nothing more than make wood, and far too much of that; so year by year the cutter has more superfluous wood to take out, and this treatment forces the tree to make renewed efforts at

wood growing. If the young tree, instead of being cut so hard (the hard cutting is necessary for two years, but no longer), is allowed to retain a much greater length of its year's growth, say two-thirds in place of a quarter, it will at once commence forming bloom-buds, and the year following will probably bear a little fruit. At the same time, if treated well in the matter of manure, it will also make plenty of new growth to continue building up the foundation of a good tree. The foregoing is what one might describe as advice for general treatment, but it must be remembered that no two varieties of any of the fruits have quite similar habits, and the grower must exercise discretion to a great extent in the management. For instance, a few kinds of Apples, like Lord Suffield, Stirling Castle, &c., are such prolific croppers that unless they are heavily pruned every year they make no new growth. On the other hand, such kinds as Bramley's Seedling make such vigorous shoots that it is best, as soon as a tree has shaped out a little, to cease cutting it altogether. The grower must himself learn to distinguish between the sorts and the treatment they require, and it is just the care bestowed in matters of this kind that makes a successful fruit grower.

A GOOD LIME-WASH COMPOUND.

Lime-washing trees is advocated by all our best authorities, and doubtless does a great deal of good. I should prefer to do it either in the autumn, so that it might be fresh during November, when most of the winter moths go up, or in February or March, in order to stand a better chance of killing some newly-hatched insects. The lime should be freshly slaked, and to every 4 gallons of wash a quart of paraffin, a pint of common salt, and a pound of softsoap should be added. The softsoap should be dissolved in boiling water first, and the lime mixed with the liquid. The salt in the mixture helps to kill any insects coming into contact with the wash, and also assists the preparation to penetrate deeper into the bark. The paraffin makes the tree distasteful to all insect life for a long time, and the softsoap imparts a certain greasy nature to the compound which resists the action of rain, and thus makes it last fresh so much longer. I think very few of us use lime half enough in fruit culture. Dusted over the trees a few times it is unquestionably a first-rate thing, and if it does no other good its manurial properties on reaching the soil are worth considering.

POTATO POTENTIALITIES.

SOME few weeks ago the editor hinted, in a footnote, that he thought I could a tale unfold with regard to the preparation of early Potatoes on a scale calculated to give a fit of the staggers to the throw-them-in brigade. The tale in question dribbled down my pen many a time subsequently, but for one reason or another never got off it. And so it came about that the mountains of boxes finished their work, the sets were carted from the store, and lo, and behold! at the middle of June, I found myself brought up with a round turn by seeing something else cleared beside the boxes, and that was the land itself. "As of a dream," indeed! I rub my eyes, and try to realise that it is not exactly yesterday that I was gazing with a gratified eye around the store, but that weeks have flown, and the Potatoes, hastened to early maturity by a process of forcing that is good because it goes hand in hand with Nature, have disappeared down the throats of the hungry.

When lusty crops of Potatoes, even in size, of beautiful texture and delicious flavour, are being dug in the open fields before May is out, money is generally coming in. Perhaps the buyer looks askance at them just at first, and even breaks into a smile of unspeakable knowingness. The "new" Potatoes which we trustful islanders import, cheerfully paying 200 per cent. over their proper value, are often only old seed sent to the Continent for the express purpose of being sent back to us. I have seen these hoary imposters go out of Dover—I have seen them come in again. They leave the shores of perfidious Albion venerable with age; they return with the bloom of youth. But "uncommon hard to scrape," says cook, "for new Portaters," not knowing, worthy soul, that they have been on a voyage for the benefit of their health, and come back again "as hard as nails."

So the buyer assumes his unspeakably knowing air when the May-dug Potatoes are brought in, and while he listens his horny thumb gently and insinuatingly wanders over the tubers. Then, somehow, he loses a little of his ah-you-can-try-this-game-on-with-me-if-you-like sort of air. The skin has rubbed off under slight pressure; he loses his vision of the voyage across the Straits of Dover, and buys—at a thumping price. Other buyers do the same, glad to get such stuff, for they know that it will go just as fast as they can get it; and so it comes about that at the middle of June I stood gazing at empty acres, where already brown-armed men were throwing out trenches and throwing in manure, planting Celery as if their lives depended on it.

Let us muse a little. That big, well-built, brick building over

there is the Potato sprouting store. It is plain, but substantial, and there was little change out of £150 for the building of it. It holds within a few of 1000 boxes. They also are plain, but substantial, and they cost 1s. each—another £50. The extra cost in labour of filling, stacking, and emptying the boxes—the difference, I mean, between so treating the tubers and clamping them—will probably average at least a penny a box, say another £5; so that it has cost £205 to bring about the state of affairs exemplified by the dazed stare of the present writer and the vigorous labours of the Celery planters. A good deal of type could be used up in speculation as to whether it pays, but if the printer will just mention that the grower is putting another wing to his house and ordering another 100 sprouting boxes, the concentrated essence of wisdom represented by a Journal subscription will not be long in coming to a conclusion.

There are not quite so many varieties as there are boxes, but there are a good many. Of course it would be easy to say that this is wrong, but if new sorts were not being tried good things would sometimes be missed. For instance, there are Myatt's, and Victors, and Puritans, all tried, true and profitable (the first-named old war-horse, by the way, has done particularly well this season). But there are likewise those two grand new first earlies, Harbinger and Duke of York. It was wonderful to see the way the former lifted—fifteen to twenty nice tubers to each hill, and as early as the most precocious of them. There is also the best all-round early Potato grown—the sure cropper, the compact grower, the yielder of large, blunt, kidney-shaped tubers of the finest eating quality, within two or three weeks of the first earlies, and that is Webber's White Beauty. Carters' First Crop, too, is one of the prizes. You may say it is wrong if you like, this spending of money on expensive new sorts for market work, but there is the new wing, anyway.

Dimly realising that it is not, after all, a dream, I look back to the time when that editorial foot-note appeared. I stand in the fine brick store and let my eye wander up and down the long tiers of boxes, each with its half bushel of sprouted sets. I peer between the stages and see a bristling array—a miniature forest—of stiff purple sprouts, each about an inch long; each as thick as the little finger of the fat lady at the show; each with a hard, business-like, almost assertive look, for all the world as though he were making out that he didn't care whether he had a Potato underneath him or not, but was good to feed any ordinary family, and leave an odd one over for paterfamilias, who has a weakness for surreptitiously impaling a cold Potato on the end of a fork when supper is on the way.

Yes, Mr. Editor, I could unfold a tale about all this, but you must make what you can of a touch-and-go story. The later sorts, I am glad to say, look well, and none so well as those where the muriate has gone. Of course, we must still wait on waxiness. But of late I have been inspired with a theory—which is based on practice and experiment—that I shall take an opportunity of propounding in the near future if time permit. In the meantime the shadow of disease threatens, and I never look over my muriate-fed rows, with their stout stems and thick leathery leaves, without rejoicing that I did not crowd in the fat dung like my neighbours, and so get their soft, squat, plethoric growth.

But it is still too early for exultation.—W. PEA.

REGENT'S PARK.

IT has been said that when a person has seen one of the London parks he has seen the whole, or, in other words, that they are very similar in arrangement. To my mind this is a great error. It is possible to find similar plants used for the embellishment of the gardens and beds, but there are new features in each and all of them, while the methods of arrangement are widely diversified, and anyone interested in the subject of garden decoration would do well to pay a visit to the majority of the parks. Mr. Jordan, the able superintendent at Regent's Park, evidently endeavours to keep his charge up to date in all matters, whether in the shape of new ideas or new varieties.

The Carnations, which are largely employed, will give an instance in point; such favourites as Germanica, Alice Ayres, Ruby Castle, and the old crimson Clove are in abundance, as are also the more recent varieties, King Arthur, Yule Tide, and others. Again, while the older forms of Violas are in evidence, there are beds of the new ones sufficient to please a Viola fancier. These are evidently trial beds, and no doubt will be weeded out, so that the most suitable varieties only will be retained. The large mixed beds have been admirably planned; one containing huge single Hollyhocks, white Tobacco, tall Heliotropes, with white Phloxes and single Dahlias, formed an interesting and attractive picture. The beds of Celosias leave nothing to be desired, and the strain is certainly an advance on the general run of such plants. The colours are chiefly red and yellow, both of which are superb. A few Cockscombs in one of the beds give variety, and as utilised here did not appear too heavy and cumbersome.

Beds of Begonia Corbeille de Feu were a mass of flower. It is a bedding plant of the first class, and one that will find its way shortly into many gardens. Fuchsias are as largely employed as in the other

parks; in fact, it would be difficult to replace them. They are to be seen in good variety, and all looking as healthy as possible. The old *Fuchsia erecta* was used in one bed in conjunction with *Chlorophytum elatum variegatum*, the whole edged with blue *Lobelia*. Large beds of *Cannas*, with their hand-ome flowers, proved very conspicuous.

The huge vases, larger than ordinary flower beds, are quite a feature of the park. They are mostly filled with a variety of plants, *Abutilons* playing an important part, with *Ivy* and *Zonal Pelargoniums*, *Fuchsias*, and many others, while *Palms*, *Grevilleas*, and *Dracenas* constitute the chief of the foliage plants. The much abused "*Geranium*" looks handsome on one side of the broad walk, immense beds being filled with them. At the time of my visit they were beautifully bright and fresh looking. The *Calceolarias* and *Lobelias* are there, too, all adding to the brightness so characteristic of this park. Masses of *Hydrangeas* are used to form a front to part of the shrubberies, standard *Fuchsias* being also employed for the same purpose, while *Palms* and other foliage plants are to be seen on all sides.

The lawns are beautifully kept and the grass delightfully green, contrasting well with the open park. The public, judging by the thousands met with during the evening, fully appreciate the efforts of the powers that be to give them not only a place for recreation, but also one which must be a matter of education to the numerous throng who go there year after year to see the summer gardening.—J. B. R.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL.—AUGUST 23RD.

THE display in the Drill Hall on Tuesday was rather superior to those usually seen at this season of the year. As is customary, the exhibits were mainly those requiring the attention of the Floral Committee. Orchids were few in numbers, but fruits were good, especially Apples and Peaches.

FRUIT COMMITTEE.—Present: W. Balderson, Esq. (in the chair); with the Rev. W. Wilks, and Messrs. A. Dean, J. H. Veitch, W. Bates, W. Farr, G. Bunyard, J. Willard, W. Fyfe, and H. W. Ward.

Messrs. G. Bunyard & Co., Maidstone, sent a splendid collection of fruits comprised mainly of Apples, but including a few Peaches. The Apples were in splendid condition, and several varieties were included in the exhibit. Amongst the most prominent were Domino, Irish Peach, Lord Grosvenor, Sugar Loaf, Cardinal, Ecklinville Seedling, Beauty of Bath, Grenadier, Golden Spire, Gold Medal, Stirling Castle, Early White Transparent, Worcester Pearmain. Plums and Pears were also included in this stand (silver-gilt Knightian medal). Messrs. Laxton Bros. sent Strawberries, Raspberries, and other fruits.

Mr. J. Hudson, gardener to Leopold de Rothschild, Esq., Gunnersbury House, Acton, exhibited Strawberries Royal Sovereign, Rouge Amelioré, and Belle de Meaux, Alpine varieties. Messrs. H. Cannell and Sons and Bunyard & Co. sent the new perpetual fruiting Strawberry St. Joseph, which is said to be a wonderful bearer. Mr. Kelf, gardener to Mrs. Abbot, Regent's Park, sent half a score of fine fruits of Sea Eagle Peach.

The small collection of fruits arranged by Messrs. T. Rivera & Son, Sawbridgeworth, was superb. There were grand Dryden Nectarines and Early Silver Peaches, Oullins, Golden, Transparent, and McLaughlin's Gages, with magnificent Peasgood's Nonesuch Apples (silver Banksian medal). Mr. J. Miller, gardener to Lord Foley, Ruxley Lodge, Esher, showed Peaches Alexander, Alexander Noblesse, and Grosse Mignonne, with Brown Turkey Figs. Mr. Rickwood, gardener to the Dowager Lady Freaque, Twickenham, contributed Grapes, Apples, Peaches, Plums, Melons, Figs, Pears, and others in creditable form (silver Banksian medal). Messrs. J. Veitch & Sons showed a grand plant of *Rubus phoeniculus* in a basket. It was about 9 feet high, and fruiting with great freedom.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with Messrs. J. Fraser, O. Thomas, C. T. Drucry, H. B. May, R. Dean, G. Nicholson, G. Stevens, W. Howe, J. E. McLeod, R. B. Lowe, H. S. Leonard, J. Fraser (Kew), W. Bain, C. E. Pearson, C. E. Shea, H. J. Jones, E. T. Cook, and D. B. Crane.

The collections of flowers and plants were not very numerous, but mostly of considerable extent. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, was represented by hardy flowers, in which Pompon and Cactus Dahlias were conspicuous. There were also Lilliums, Helianthus, Gladioli, Gaillardias, and others (silver Banksian medal). Mr. H. B. May, Upper Edmonton, occupied one side of a central table with dwarf splendidly flowered plants of *Bouvardias*. The growth was very clean and the foliage of good colour (silver Flora medal). Messrs. H. Cannell and Sons, Swanley, exhibited *Salpiglossis*, *Scabious*, *Gaillardias*, and *Cockscombs* in variety (silver Banksian medal).

Hardy flowers from Messrs. Barr & Sons, Covent Garden, were of good quality and well diversified. There were numbers of *Phloxes*, *Helianthus*, *Lilliums*, *Ceanothus*, *Gladioli*, and others (silver Flora medal). *Gladioli* formed the backbone of the exhibit from Messrs. R. Wallace & Co., Colchester. Many of them were *Lemoinei* hybrids, and were of excellent quality. *Montbretias* and *Tritomas* also added to the beauty of the exhibit (silver-gilt Banksian medal). P. Purnell, Esq., Woodlands, Streatham Hill, exhibited a large collection of miscellaneous flowering and foliage plants, comprising *Ferns*, *Palms*, *Begonias*, *Lilliums*, *Fuchsias*, and *Celosias* (silver Banksian medal).

Messrs. Kelway & Son, Langport, made a grand display with their

superb spikes of *Gladioli*. These were grand in spike and rich in colour, the individual flowers being of considerable size. Very fine indeed were Motor Car, Lightning Sir George Newnes, Cardinal Newman, Calliphon, Agatha, R. Palairé, and Hatch Beauchamp (silver-gilt Banksian medal). Mr. W. Bain, gardener to Sir Trevor Lawrence, Bart., Dorking, staged *Gladioli*, *Anthuriums*, *Verbenas*, and several other plants (silver Flora medal).

SHERWOOD CUP.—Messrs. J. Veitch & Sons, Ltd., sent a collection of annuals and biennials, amongst which there were many flowers of good quality. The arrangement was graceful and effective.

ORCHID COMMITTEE.—Present: A. H. Smee, Esq., in the chair; with Messrs. J. O'Brien, De Barri Crawshaw, H. M. Pollett, J. G. Fowler, H. J. Chapman, W. H. Young, J. Jaques, W. B. Latham, W. Cobb, T. B. Haywood, and W. H. White.

Orchids made up in quality what they lacked in quantity. Messrs. H. Low & Co., Bush Hill Park, sent a small group, including *Cattleya Harrisoni*, *C. bicolor* *Wrigleyana*, *Laelia amanda*, *Laelio-Cattleya Aurora*, *Cypripedium Curtisii*, *C. bellatulum album*, and others. From Messrs. F. Sander & Co., St. Albans, came *Bulbophyllum grandiflorum*, *B. barbigerrum*, *Cattleya velutina*, *C. Gaskelliana*, *C. Leopoldi*, *Odontoglossum bicondense album*, *Oncidium incurvum album*, with plants of *Acalypha Sanderi*. Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., sent a beautiful plant of *Platylinis filiformis*, and several other growers staged single plants of Orchids.

Messrs. J. Veitch & Sons, Ltd., Chelsea, staged *Cypripedium Rothschildianum villosum*, *Epidendrum radicante* - Stamfordianum, *Masdevallia Circe*, and *Disa Clio*.

CERTIFICATES AND AWARDS OF MERIT.

Apple Langley Pippin (J. Veitch & Sons).—This has resulted from a cross between Cox's Orange Pippin and Mr. Gladstone, and in appearance is intermediate between the two. The colour is greenish yellow with crimson splashes. The flesh is soft and sweet (award of merit).

Gladiolus Madame Desbordes Valmore (Barr & Sons).—A handsome variety of the *Lemoinei* section. The colour of the upper portion of the flower is soft rose, the lower segments having a blotch of bright red (award of merit).

Hunnemannia fumarisefolia (J. Veitch & Sons).—An old plant, with rich yellow Poppy-like flowers. The foliage is after the character of the *Eschscholtzia* (award of merit).

Lathyrus grandiflora alba (J. Green).—This is a good form of the well-known white Everlasting Pea (award of merit).

Nymphaea odorata sulphurea grandiflora (J. Hudson).—A very handsome variety. The flowers are large, and of a soft yellow colour (award of merit).

Tomato Currant (S. T. Wright).—The varietal name of this tells its characteristics (award of merit).

ISLE OF WIGHT.

THE Shanklin Horticultural Society held its nineteenth annual exhibition of flowers, fruit, vegetables, and plants in the beautiful grounds of Rylestone, by permission of M. Spartali, Esq., on August 17th. The principal prizewinners were for stove and greenhouse plants, Mr. S. Banks, gardener to Col. Atherley; specimen stove plant, Mr. A. Richards, gardener to J. Jessop, Esq., Bonchurch; table plants, Mr. A. Woods, gardener to Hon. H. Scwell, Steephill Castle, Ventnor; *Begonias*, Mr. A. Kingswell, gardener to General Harpur; specimen *Begonia*, Mr. W. H. Willis; basket of plants, Mr. G. Lale, gardener to H. Oxley, Esq.; basket of flowers, Miss R. Bastiani; *Zinnias*, Mr. S. Prismall, gardener to Mrs. Rotherham Cecil; Dahlias, Mr. W. A. Kent; *Roses*, Mr. H. Chiverton, gardener to Rev. C. W. Heald, Chale; single *Zonal Pelargoniums*, Mr. C. Prince; *Gladioli*, Mr. G. Whitty; hardy perennials, Mr. Geo. Leek, sen.; *Peaches*, Mr. G. H. Plumley; *Melon*, Mr. E. Edurher, gardener to Col. Raymond; *Green Gage Plums*, Mr. A. T. Cole, gardener to G. W. Rendel, Esq.; table Apples, Mr. C. Orchard; kitchen Apples, Mr. L. Gatrall, gardener to W. H. Willis, Esq.; table Pears, Mr. J. H. Silsbury; Cucumbers, Mr. P. Ponchion; Cauliflowers, Mr. F. W. Prouter; Onions, Mr. J. Bastiani; hand bouquet, Mr. J. Banting, sen., and a collection of Sweet Peas Mr. W. Geddes. The exhibits numbered nearly 700, and upon the whole were of first-rate quality. Great credit is due to Mr. Howard, Hon. Sec., and the Committee, for the admirable arrangements.

The annual exhibition of the Freshwater, Totland, and Yarmouth Horticultural Society was held on Wednesday last in Farringford Park by permission of Lord Tennyson, who takes a great interest in its welfare. Two excellent and effective non-competitive groups were staged by Mr. Russell, gardener to Lord Tennyson, and Mr. A. W. Kime, F.R.H.S., gardener to Colonel Pearson-Crozier, J.P. Amongst the principal prizewinners were Mr. W. Morey, gardener to F. Tankand, Esq., for greenhouse Ferns; Mr. C. Smith for *Fuchsias*; Miss Oldershaw for flowering plants; Mr. B. Spencer, gardener to Colonel Cotton, for *Coleus*; Mr. B. Grist, gardener to Lady Hamond-Græme, for *Roses*; Mr. H. Fry for hand bouquet; Mr. H. F. Banham for Cucumbers; Mr. G. Carben, gardener to Mrs. Henry, for Runner Beans; Mr. C. Smith for Tomatoes; Mr. J. Covey, gardener to Rev. Dr. Merriman, for Plums; Mr. R. Marshall for honey in sections, and to Mr. W. R. Marshall for dark run honey. The cottagers were very strong at this show, the principal prizes being

obtained by Messrs. J. H. Russell, E. Cooper, J. Fry, G. Wheeler, W. Stephens, R. Marshall, J. White, A. Reason, W. Heal, and G. Moyce.

The Niton Horticultural Society held its fourth annual exhibition on Thursday last. The exhibits numbered nearly 400, and quite maintained their usual standard of excellence. Mr. W. Cotton secured the I.W. Horticultural Improvement Association's certificate for cultural merit with an excellent collection of Begonias. Mr. Godfrey Baring, J.P., D.L., O.C., Chairman of the I.W. County Council, and Mrs. Baring visited the Show during the afternoon. The principal prizewinners were Messrs. C. Long, S. Squibb, G. Rashley, R. Norris, H. Hardy, J. Squibb, A. Salter, G. Dyer, W. Cotton, J. Niblett, J. Rashley, G. W. Creeth, W. Hayles, G. Hayles, H. Jacob, F. Niblett, F. King, H. Hawkins, and R. Hayles. The success of this Society is largely due to the energetic Hon. Secretary, Mr. G. W. Creeth, and the indefatigable Chairman, the Rev. J. Bateman, who with a strong working Committee give every encouragement to the villagers to cultivate high-class produce.—S. H.

NATIONAL CARNATION AND PICOTEE SOCIETY (NORTHERN SECTION).—AUGUST 13TH.

THE annual exhibition of the above Society was held at the Botanical Gardens, Manchester, on Saturday, August 13th. Notwithstanding the somewhat unfavourable season there was a good variety of bloom exhibited, although growers from the northern counties were not so well represented as usual, the bulk of the prizes going to the Midland growers. Some capital blooms were shown, the strongest sections being bizarres, flakes, and Picotees, while there was also a creditable collection of self colours and yellow-grounds. Amongst the names of exhibitors those of such well known growers as Mr. T. Lord, Todmorden; Mr. R. Sydenham, Birmingham; Messrs. Thomson & Co., Birmingham; Mr. A. R. Brown, Birmingham; Mr. A. W. Jones, Birmingham; and Mr. C. F. Thurstan, Wolverhampton, were prominent. The arrangements for the Show were carried out by a Committee, of which Mr. T. Lord was Secretary, and during the afternoon and evening there was a large attendance of the public. The following were the principal prizewinners:—

Twelve Carnations, bizarres and flakes, all dissimilar.—First, Mr. R. Sydenham with Geo. Melville, Wm. Skirving, seedlings (2), Master Fred, Rob Roy, J. S. Hedderley, Gordon Lewis, John Wormald, Geo. Rudd, Seedling, and Mrs. Rowan. Second, Mr. T. Lord with Bruce Findlay, Robt. Houlgrave, Arline, Thaddeus, George, Mrs. T. Lord, Dan Godfrey, Robt. Lord, Mrs. Shaw, Magpie, J. S. Hedderley, and Mrs. May.

Twelve Picotees, white grounds, all dissimilar.—First, Mr. T. Lord, with seedlings (4), Favourite, Thos. William, Mrs. Rodgers, Lena, John Smith, Brunette, Mrs. Gorton, and Mrs. Sharp. Second, Mr. R. Sydenham. Six Carnations, bizarres and flakes, dissimilar.—First, Mr. F. W. Goodfellow, Walsall, with Thaddeus, Chas. Henwood, Martin Rowan, Sportsman, Robt. Houlgrave, and Ed. Rowan. Second, Mr. A. R. Brown. Six Picotees, white grounds, dissimilar.—First, Mr. F. W. Goodfellow, with Ganymede, Little Phil, Esther, Mrs. Gorton, Thos. William, and Brunette. Second, Mr. C. Head, Hedden Bridge.

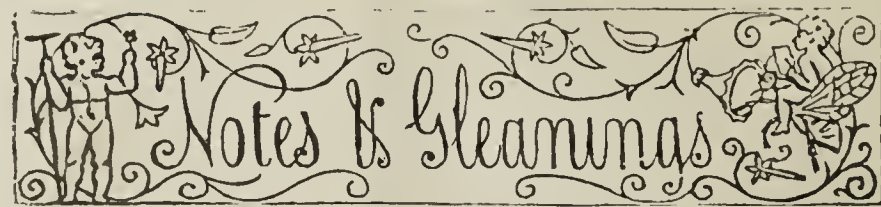
Twelve selfs only.—First, Mr. C. F. Thurstan with Duke of Orleans, Seagull, Miss A. Campbell (2), Sweetbriar, Mrs. E. Hambro (2), Exile (2), Mrs. Jas. Douglas, and Emir. Second, Mr. A. W. Jones with Britannia (2), Seagull (2), Mrs. J. Douglas, Mrs. McRae, Germania (2), Mrs. Colby Sharpin (2), Lady Hendley, and Gilda. Six selfs only.—First, Mr. C. Head with Exile (2), Miss A. Campbell, Nabob, Niphotos, and Mancunian. Second, Mr. A. R. Brown.

Twelve Fancy or yellow-ground Carnations and Picotees.—First, Mr. A. W. Jones, Birmingham, with Voltaire (2), The Gift (2), Monarch, Sport, The Wish, Eldorado (2), Geo. Cruickshank, Wanderer, and May Queen. Second, Messrs. Thomson & Co., Birmingham, with Voltaire (2), Mr. Nigel, Golden Eagle, Monarch, Yellowhammer, Perseus, The Gift, Mrs. Douglas, Xerxes, May Queen, and Ladas. Six Fancy or yellow-ground Carnations and Picotees.—First, Mr. C. F. Thurstan with The Gift, Voltaire, Golden Eagle, Mr. Nigel, Eldorado and Yellowhammer. Second, Mr. H. G. Owen.

Single blooms, scarlet bizarres.—First, Mr. R. Sydenham with Robt. Lord; second, Mr. T. Lord with Robt. Houlgrave. Crimson bizarres.—First, Mr. T. Lord with Bruce Findlay; second, Mr. R. Sydenham with Master Fred. Pink and purple bizarres.—First, Mr. R. Sydenham with Sarah Payne; second, Mr. T. Lord with Wm. Skirving. Scarlet flakes.—First, Mr. W. Pemberton with Sportsman; second, Mr. T. Lord with Sportsman. Rose flakes.—First, Messrs. Thomson & Co. with Mrs. Rowan; second, Mr. T. Lord with Mrs. T. Lord. Purple flakes.—First, Mr. R. Sydenham with Gordon Lewis; second, Messrs. Thomson & Co. with Gordon Lewis.

Heavy Red Picotees.—First, Mr. T. Lord with Brunette; second, Mr. A. R. Brown with Ganymede. Light Red Picotees.—First, Mr. T. Lord with Thos. William; second, Mr. F. W. Goodfellow with Thos. William. Heavy Purple Picotees.—First, Mr. A. R. Brown with Mrs. Openshaw; second, Mr. R. Sydenham with Mrs. Openshaw. Light Purple Picotee.—First and second, Mr. A. W. Jones with Somerhill. Heavy Rose, Scarlet, or Salmon Picotees.—First, Mr. C. F. Thurstan with Lady Louisa; second, Mr. R. Sydenham with Mrs. Payne. Light Rose, Scarlet or Salmon Picotees.—First and second Mr. T. Lord with Favourite.

The premier prize for the best Carnation in the whole exhibition was won by Mr. T. Lord with Mrs. May, rose flake; and the premier prize for the best Picotee was won by Mr. F. W. Goodfellow with Mrs. Gordon.



WEATHER IN LONDON.—Once more we have been making heat records in London, the thermometer on Monday reaching 89° in the shade and 129° in the sun, which is the hottest for the year so far. At midday on Tuesday the temperature was nearly 80° in the shade. On Thursday, Friday, and Saturday of last week it was very warm, as was it on Sunday, when there was a slight thunderstorm with rain in the evening. On Wednesday, at the time of going to press, it was brighter but decidedly cooler.

— BLACKS IN POTATOES.—This year I have been in time to find an olive coloured grub in the Potatoes affected with blacks, the pest eating its way to a considerable depth, sometimes to the middle of the tuber, and then, turning about or backing out, passes into the soil to pupate. The grub appears black to the unaided eye, and when full grown about half an inch in length. It causes blackness in the tuber, and gives the flesh near a very unpleasant flavour, if not rendering it unwholesome. The grub appears a species of the genus *Panorpa*, or scorpion fly, but I have not been successful in rearing this; indeed, the grubs are difficult to get out, and even to detect when in, so that many have their heads cut off or their tails. Perhaps some correspondent may throw light on the subject as the matter is serious, quite a quarter of the tubers being affected.—EXPERIMENTALIST.

— ONION CLASSES.—Every show where it has long been the rule to have classes for autumn-sown and spring-sown Onions helps to emphasise the need there is for a third class—viz., for winter raised bulbs. It is so very evident that these bulbs do not come into either of the former categories. It is specially hard on those exhibitors who read the schedule as written, and in the spring class show only bulbs raised from seed sown outdoors in the spring, to have glass-raised bulbs put into competition with them. Equally it would be wrong to exclude such bulbs from competition because they do not comply with the conditions of either autumn or spring-sown classes. They are usually so fine and often rich triumphs of cultivation that they merit all encouragement. I should like to see Shrewsbury, where there is such great competition in both established classes, setting an example in this respect, and at the same time relieving the judges of a difficulty.—A. D.

— RIVIERA FLOWERS.—I notice in your issue of August 18th, under the above heading, that "Carnations continue to be planted in large numbers." It is to be sincerely hoped if this is the case that the planters will take the trouble to propagate better strains of Carnations than are now in vogue at Bordighera. My daughter has spent two winters lately at Bordighera, and at my particular request searched everywhere to try and find anything new, or of exceptional merit, without result. What are grown are of that papery, crinkled leaf, with a saw edge, which nobody that grows Carnations would look at in this country. It is a pity that with such climatic advantages somebody there does not take the trouble to import and grow really good Carnations, as I see no reason why we should not then have them all the year round in quantity, such as we have now being grown under glass, and which, taken as a whole, are far inferior to plants flowered in the open air under proper cultivation.—H. W. WEGUELIN, *St. Mary Church, Torquay*.

— THE DECLINE OF THE PELARGONIUM.—I have read with some interest the paper on this subject, which interest would have been considerably increased if I had been quite sure about what the writer meant. He seems to use the terms *Pelargonium* and *Geranium* as convertible; but I think, generally speaking, *Geranium* is a term applied to those of the Zonal section, which I have never heard called *Pelargoniums*, this latter name being applied to those grand greenhouse flowers of which Mr. Charles Turner of Slough, and Mr. Bailey of Shardeloes, used to be the great exponents; but these were never used for bedding purposes. Again, what does the writer mean by *Fancy*? This was a term originally applied to a particular section of the greenhouse *Pelargoniums* with smaller flowers than those of the Show section, more difficult to manage than those varieties, requiring more heat, and being more liable to damp. They cannot, therefore, be, I imagine, varieties to which your correspondent alludes, and it is a great pity, I think, that neither those nor the Show *Pelargoniums* are as much cultivated as they used to be.—D., *Deal*.

— **PRIMEVAL VEGETATION.**—Lord Kelvin says there is not more than three hundred and forty million million tons of fuel in the earth, and says that this is the exact amount, because all the oxygen of our atmosphere came from primeval vegetation. One ton of coal takes 3 tons of oxygen to burn it, and therefore its vegetable originals, decomposing carbon dioxide and water by the aid of sunlight, gave 3 tons of oxygen to the atmosphere. Every square metre of the earth's surface bears 10 tons of air, of which 2 tons are oxygen. The whole surface of the earth is one hundred and twenty-four thousand millions of acres, hence his reasoning.

— **THE PREJUDICE AGAINST THE TOMATO.**—The Tomato alarmists are at their old tricks again. Dr. Andrew Wilson says:—"I have received several letters of late reiterating a question I might well be tired of answering, 'Do Tomatoes cause cancer?' But for the fact that one takes a pleasure in stamping one's foot on a misleading statement calculated to prejudice people against a vegetable food which is entirely healthful and safe, I should grow weary of asserting that not a jot or tittle of proof has ever been offered in support of the outrageous statement noted above. One might as well allege that Cabbage causes cancer, for there would be no more proof of that assertion than there is proof to be had concerning the Tomato myth. I can only repeat that the Tomato is an excellent vegetable enough, and may be partaken of by those with whom it agrees without any fear of its initiating any disease whatever."—("Medical Record.")

— **EXPORTING SEED POTATOES.**—When calling at Messrs. Sutton & Sons' seed warehouse at Reading, last week, my attention was called to a huge pile of boxes and hampers, all packed and labelled for South Africa. I found to my surprise that these packages contained only a part of many tons of seed Potatoes sent out to that warm country on the order of various extensive growers, and are planted immediately on arrival there to produce a crop for the supply of the colonial towns. The greater bulk of the tubers consisted of Early Rose, apparently a favourite variety. Such, however, is the debilitating effect of that hot dry climate on the tubers that it is only possible to keep up supplies by importing seed tubers of the same year's growth direct from England. Of course tubers for this purpose have to be very carefully picked. No tubers apparently exceed 3 ozs. in weight, and, as I saw from the sample shown, if smaller at least they are of the very cleanest. It is only where such exceeding care is shown in the selecting and packing that trade could be done by the African growers. All the air possible is given. Of course the tubers have to be lifted early, and be well dried to set the skins ere packed. As we hear such lamentations respecting the extent of our Potato imports, it is just as well to know that Old England does a little of reverse Potato trading, and it is specially satisfactory to learn that so distinguished a firm as is the great Reading seed house should be the instrument of doing it. Long may it be so. It is odd to understand at home of a great trade in seed Potatoes for immediate planting being carried on in the month of August.—WANDERER.

— **THE BUSINESS OF JUDGING.**—Apart altogether from the importance of having a Judge's awards right as between exhibitors, it is most needful that they should be right also with the general public. It may be, of course, sometimes the case that the reasons which may be given for certain decisions are not such as the ordinary visitor to a flower show can understand, but such decisions should be rare. As a rule the reasons ought to be as clear to the non-professional visitor as to the Judge or the competitor. The visitor, whether individually or in bulk, walking through a flower show sees class after class judged in a way that is to him intelligible, and he follows the Judge's line of action as readily as do even those keen-eyed critics, the press reporters. But when a really bad piece of judging suddenly crops up, then is the visitor's intelligence confused and annoyed because he perceives at a glance that either the Judges were ignorant of the requirements of the class judged, or have erred from pure carelessness. Nothing in a show gives rise to so much annoyance, or to discussion and grumbling, as do decisions so faulty and so wrong. Generally this trouble arises from the putting of men to judge exhibits of which they are comparatively ignorant. It is so awkward when round men are put into square holes. I saw the other day a notable instance of this blundering through ignorance that was universally condemned. Not only were the very best flowers staged in accordance with the terms of the schedule absolutely ignored, but the very worst stand of flowers shown, that were many of them not what were asked for, was placed first. The Judges, distinguished men in their way, yet could have known nothing at all about the flowers in question. It is so essential to have as judges men who really do know their subjects.—VISITOR.

— **ISLE OF WIGHT.**—In the gardens adjoining Brooke House, the residence of Sir Chas. Seely, Bart., are many things of interest to gardeners. Not the least of these is, at the present time, a fine house of Muscat of Alexandria Grapes, which reflect great credit to the abilities of the gardener, Mr. W. Tribbick, as a Grape grower. The bunches are typical in shape and of large size, with berries well formed and of an amber tint.—S. H.

— **SMILACINA STELLATA.**—Writing in "Meehan's Monthly," Mr. J. T. Stewart says:—"Smilacina stellata is one of the handsomest little plants that grow in American woods. The stem and leaves are glabrous. It is ordinarily about a foot high, terminated by a little raceme of very delicate, pearly white, stellate flowers. It prefers moist, partially shaded places; just such places as the Lily of the Valley flourishes in. It is the easiest plant in the world to cultivate, and is one of the few wild flowers that do not deteriorate by cultivation. Plant out a stalk of it, let it alone, and in two or three years you will have a thick bed from 1 to 2 yards square. About the 1st of May it flowers, when but few things make as pleasing an appearance."

— **BUDDLEIA VARIABILIS.**—This showy species is of comparatively recent introduction, and it is not yet certain whether it will prove quite hardy so far north as London. Whether hardy or not, it is worth a place in the garden, for it is an easy matter to root a few cuttings and keep them in a cold frame during winter and plant out in early spring. Plants treated in this manner grow quickly and produce an abundant supply of flowers during late summer and early autumn. It is of striking appearance whether in or out of flower, the leaves being 6 inches long by 1½ inch wide, and silvery, especially on the under surface. The flowers are produced in long, branched racemes from the end of every shoot. The racemes vary in length according to the strength of the shoots, strong growths often bearing them from 15 to 18 inches long. The flowers themselves are small, and vary slightly in colour on different plants, the prevailing colour being bright lilac with yellow throat. Like other Buddleias it grows well in sandy loam. It is a native of Central China, and is the subject of a recent figure in the "Botanical Magazine," t. 7609. Several plants are to be seen in flower at Kew.—W. D.

— **PRUNING.**—There are many who object to pruning as an artificial and, it may be, a barbarous proceeding. Nature is from this point of view far worse than the gardener. She is always at it. She produces infinitely more buds than could ever grow into shoots, and she consequently slaughters them ruthlessly. The struggle for existence is nowhere fiercer than among the buds and leaves of a tree, so that the objection to pruning that it is unnatural is one that is baseless. Pruning, from a gardener's point of view, is done for various objects, and the method of operation depends on the particular object aimed at, and specially on the mode of growth of the shrub or tree. In many cases no pruning at all is required; in others, the greatest beauty or the utmost fruitfulness is not attained without it. It is a highly technical matter, one demanding a large degree of knowledge, intelligence, and experience. The outcry one sometimes hears about pruning should be directed, not against the thing itself, but against incompetent practitioners. Good practitioners must have not only experience, but a full knowledge of plant life and plant structure.—("The Athenæum.")

— **THE WOKING HORTICULTURAL SOCIETY.**—The August meeting of this Society, held on Thursday, the 18th inst., gave further evidence of the steady growth and increasing interest which the members and others in the district have taken in its doings during the present year. The flowers, fruits and vegetables exhibited for special prizes and points were so numerous that the staging Committee had some difficulty in accommodating them, so that each could be fairly judged. The same difficulty was experienced with the company present, who found the crowded room uncomfortable on so hot a night. The interesting paper given by Mrs. J. C. Law was, however, listened to with attention by all present. "An Hour in the Garden," by this enthusiastic lady amateur was an agreeable change from the more practical details usually given upon some special subject by other lecturers. The collections of vegetables were equal in quality to any seen at the larger annual shows held in the surrounding districts. Mr. Carpenter's collections of hardy perennials and Helianthus, for which in each instance he received the first award, made a nice display. Mr. Needs, as usual, came first with Cactus Dahlias, his blooms, in spite of the excessive heat and absence of rain, being little below his usual form. Mrs. Law exhibited some beautiful spikes of Lilium. Mr. Harms had the honour of the only certificate for exceptional merit awarded for a lovely dish of dessert Apples.—VISITOR.

AGLAONEMA COSTATUM.

THE beautiful Aroid, *Aglaonema costatum* (fig. 27), concerning which "G. O. Lingard" desires particulars, was first exhibited by Messrs. J. Veitch & Sons in 1892, when it was greatly admired. It is a dwarf foliage plant of great distinctness and beauty, introduced by the exhibitors from the Perak region. The leaves are about 4 inches long and $2\frac{1}{2}$ to 3 inches broad. The spreading, broadly ovate blade is dark glossy green, and thickly sprinkled with creamy white spots, the midrib being of the same colour as the latter. The plant is of dwarf habit, attaining a height of 4 to 5 inches, and this, combined with its attractively marked foliage, renders it extremely useful; moreover, it is very effective in artificial light. It requires a stove temperature, but is of easy culture, little subject to insect attacks, and the old foliage retains its freshness for a long period.

HORTICULTURAL SHOWS.

SHREWSBURY.—AUGUST 17TH AND 18TH.

THIS quaint and picturesque old town, with its narrow, winding, hilly streets, presented a scene of great life and animation on the above dates, for the inhabitants are proud of their wondrous Show, which has become an object of national interest, and stands pre-eminent among the horticultural exhibitions of England. The whole country side for miles around gather for the great event; packed excursion trains from far and wide rush onward to Shrewsbury, and swell the throng into a mighty host, among which many a fair Salopian may be seen in tasteful attire. Gardeners and horticulturists make it a rendezvous; some come from across the border, others from the Emerald Isle, to meet in friendly, if keen, rivalry, or to exchange greetings with kindred spirits, who at other times are scattered throughout the land.

The show, held in the pretty public resort known as the "Quarry" on the above dates, was a magnificent one. Fruit, cut flowers, groups, and plants were grand; 400 bunches of Grapes were staged, 89 bouquets, and collections of Carnations occupied 20 yards run of tabling, and in all 2700 entries were sent in. Great things have been done for many years at Shrewsbury, still we think the latest show must have exceeded all previous ones in magnitude when taken as a whole, yet system, order, and calmness prevailed among the officials throughout the busy hours preceding the opening. Good men and true were at the helm in Messrs. Adnitt and Naunton, the Hon. Secretaries, and their capacity for organisation wins the admiration of all who see the inner working of the arrangements. In carrying out the details they have the assistance of an energetic and intelligent Committee, which could not easily be beaten.

To these facts the wonderful success of the Society must be principally due. We live in a record-breaking age, and in the matter of attendance we seem to expect a record each year at Shrewsbury. On the opening day this year the amount taken at the gates exceeded by upwards of £100 the takings of any "first day" in bygone years. The weather was splendid, and doubtless the second day brought off another record, for as we left the show tents late on Thursday morning visitors were flocking in in shoals. Proceeding down the main street toward the station, from the rising ground at one end, we saw a stirring scene, for the narrow undulating streets appeared packed with people, all pressing onward to the show, and the gaily coloured flags which fluttered in the breeze above them seemed to complete the festive scene. It was found no easy matter to "squeeze" to the station, and when that was at last reached, shoals of excursionists still kept pouring in. Where they could all find standing room in the "Quarry" is a matter which has since been puzzling us. The show has evidently outgrown its site; cannot it be enlarged? Plenty of attractions were provided during both days, but an unintended one occurred on Thursday morning just before the show was reopened—the fireworks tent caught fire and was totally destroyed. During the process there was a lively ten minutes of sound, fury, and flame. The Royal Horse Guards, Coldstream Guards, and Scots Guards discoursed delightful music during both show days.

GROUPS AND PLANTS, OPEN TO ALL.

The big plant classes have always made a marvellous display at Shrewsbury; some of the specimens are invariably the best to be seen anywhere during the season, and in groups arranged for effect, originality in design, combined with superbly finished workmanship, each year supply visitors with pleasant surprises, as the liberal prizes offered induce exhibitors to do their utmost to surpass themselves. In the latter respect Shrewsbury's latest show will, I think, be generally considered as remarkable. The handsome prizes of £25, £17 10s., and £10 were offered for a "group of miscellaneous plants, in or out of bloom, arranged to produce the best effect, and occupying a space of 300 square feet." This was splendidly won by that renowned veteran Mr. J. Cypher, Cheltenham. Surprising works of art as this exhibitor's groups invariably are, he has probably never put up a better than that under notice.

A large cork-covered arch served as a foundation for the background. This was surmounted by an elegant Phoenix, having gracefully drooping fronds. A mass of *Panicum variegatum* completely hid the base of the Phoenix, which appeared to be growing out of the trailers. The sides of the arch were thinly draped with trailing plants, with Ferns and Fuchsias springing from them here and there; a telling spike of Orchid

drooped from the arch near the centre. Underneath was a pool of water, backed up by a rock-like formation, from which water was constantly trickling—like a natural "dripping well" sometimes encountered among the hills and glens of Wales. Two smaller arches jutted out into the body of the group, these being draped with suitable plants and topped by graceful ones. Bold mounds were formed near the front corners of the group, and others of various sizes at well chosen points. Then from the groundwork of moss feathery foliaged plants, highly coloured Crotons, and Caladiums sprung up in a light and natural way. A fine plant of *Cattleya Sanderiana* occupied a conspicuous position, other Orchids and flowering plants being also employed to give colour. Not the least conspicuous feature in this ideal arrangement was the fine effect produced by two tall plants of *Humea elegans*, which rose well above surrounding objects, and drooped in thread-like trails. Lightness and finish were strong characteristics of this exhibit, which won unstinted admiration.

The second prize fell to Mr. W. Finch, Coventry, who put up a very attractive group. A continuous bank formed the background, near the front was a huge mound surmounted by a good telling Palm; and dotted with Crotons and trailing plants, small mounds rose here and there from the usual groundwork of moss. Ixoras, Lilies, and Crotons were a good feature in this exhibit, being used with telling effect. The third prize went to Mr. C. Roberts, gardener to Miss Wright, Oswestry, who made a good display with Kentias, Lilliums, Crotons, Carnations, Begonias, Coleus, and Ixoras. The finish was good, but originality was lacking.

A new feature of the show this year was the introduction of a class for group of ornamental foliaged plants, Palms, and Ferns, arranged to produce the best effect, to occupy a space of 200 feet (flowers and plants in flower excluded). The same amount was offered for each of the three prizes as in the foregoing class. Mr. J. Edmonds, Bestwood, Notts, in this scored a great triumph in securing the premier position with a wonderfully bold and striking arrangement, which well qualified judges consider has never been surpassed for effect in a flowerless group. A large mound was raised in the centre, from which towered a fine Kentia, brightly coloured Crotons, Ferns, Dracænas, and other plants being massed beneath. Numerous other mounds rose from the groundwork of moss, these being surmounted in the usual way with graceful Palms or other plants; but high above these miniature mounds rose light plants of Bamboos, *Cocos plumosa*, and green Maize; in some cases these were fully 9 feet in height, and produced a light wavy surface. The most distinct feature of the arrangement has, however, yet to be dealt with—it was produced by the introduction of several grand plants of *Acalypha* fully 6 feet in height. These were confined to single stems, which were clothed with magnificently coloured leaves right down to their base, and the striking effect they produced may by some be imagined, but cannot well be described.

Mr. Cypher was a good second, his group being arranged on a similar plan to that adopted successfully in the previous class, but without flowering plants. The effect was quite different. Beautifully coloured Crotons were in this freely used, in suitable positions, and the whole arrangement well carried out; and though it showed evidences of more originality than the winning group, the striking plants and bold outline produced by Mr. Edmonds fairly won him the coveted award. Mr. Finch was third in this class with a fair arrangement.

SPECIMEN PLANTS.

Another new and important class was that for "thirty stove and greenhouse plants, in pots not exceeding 10 inches (Orchids excluded), not less than twelve in bloom," prizes of £25, £17 10s., and £10 being also offered in this. Mr. T. Lambert, gardener to Lord Harlech, Oswestry, was deservedly placed first with an exhibit of good quality throughout. Some of the Crotons, Ixoras, Dipladenias, and Palms were particularly "smart" and well grown, and to succeed in so large and important a class when a Cypher competes is an honour anyone may well feel proud of. Mr. Cypher contentedly took the second position, as he knows as well as anyone when he is beaten, and is not weak enough to withhold due praise from his vanquisher. The third prize fell to Mr. Brommell, gardener to H. H. France Hayhurst, Esq., Wellington.

One other great plant class has yet to be dealt with. In this Mr. Cypher was invincible, and easily secured the premier award of a cup, value £25, or cash, which was offered as the prize for twenty stove and greenhouse plants, in bloom or foliage, not less than twelve in bloom. In this class he staged those superb examples for which he has so long been renowned. The varieties were *Phœnocomia prolifera* Barnesi, *Statice profusa*, and *S. intermedia*, *Ericas* Barnesi and *Irbyana*, *Bougainvillea glabra*, *Ixora Duffii*, *Clerodendron Balfouriana*, *Erica Austiniana*, *Allamanda nobilis*, *Bougainvillea Sanderiana*, *Crotons Chelsoni*, *Queen Victoria*, *Sunset*, and *angustifolium*, *Latania borbonica*, and two Kentias. An extra prize of £10 was awarded to Mr. Finch for a good exhibit of even quality throughout. For a single specimen Mr. Cypher was successful with a pretty example of *Erica Austiniana*, being followed by Messrs. Finch and Lambert.

For six exotic Ferns Mr. E. Jones, gardener to A. Barber, Esq., Wellington, was first with fine examples; second, Mrs. J. H. Slaney, Wellington; third Mr. G. Burr, Oaklands, Shrewsbury. For a like number of Dracænas Mr. A. Birch, gardener to Mrs. Watkins, Shotton Hall, Shrewsbury, was first with well developed plants, Mr. T. Lambert being a good second. Mr. R. Lawley, gardener to Mrs. Darby, Adcote, won for six Caladiums. A good display was made in the class for four *Coleuses* pyramidal in shape; the first prize went to Mr. A. Myres, Shrewsbury, who had perfectly trained brightly coloured plants; Mr. T. Stevenson, gardener to Mrs. Slaney, being second; and J. Barber, Esq., third.

The class for three Fuchsias was not strong, but Mr. Myres obtained the first prize. £3 was offered as the first prize for six double "Geraniums;" the same exhibitor was again successful in this instance, also staging fine plants, and being followed by Mr. A. Bateman. For half a dozen Zonals the prizes went to Messrs. Myres, Bateman, and Taylor in the order named. Mr. Davies, Yeovil, won for six Begonias with plants which were not large, but carried fine flowers. J. Parson Smith, Esq., Abbotsmead, won for a like number of Gloxinias with profusely flowered plants; second, Mr. H. Cliff; third, R. Townsend, gardener to Col. Lloyd, Aston Hall, Oswestry. For twelve plants suitable for table decoration, the premier award went to Mr. Edmonds. Mr. R. C. Townsend won for a collection of thirty miscellaneous plants in pots not exceeding 5 inches in diameter; Mr. J. Birch being second, and Mr. A. Jones third.

OPEN TO COUNTY OF SALOP ONLY.

The prizes offered for six stove and greenhouse plants, in bloom or foliage, not less than four being in bloom, were £6, £4, and £3 respec-

superb exhibit, then drop back again, while the veterans of old weather the storm like a sturdy British Oak. If beaten sometimes, they still press onward, and blot out the defeats of one year by victories the next. Whenever a good prize is offered for fruit the tug-of-war usually rests between a few old hands.

DECORATIVE DESSERT TABLE.

In this class the tables supplied are 10 feet by 4 feet 6 inches. Plants, cut flowers, and foliage may be used, and not more than sixteen dishes of fruit are allowed, these to be selected from the printed list given below. The sum of £45 was offered in five prizes, in exact accordance with the point value of each collection as awarded by judges under R.H.S. Code. Only three collections were staged. The winner proved to be Mr. J. McIndoe, who fought hard for victory last year. His plan of arrangement was worked out in the following way:—Two tall trumpet-shaped glasses were placed near the centre of the table, a few smaller ones being arranged round the sides. The glasses were lightly arranged with *Montoretias*, *Acacias*, and *Oncidium*, *Asparagus plumosus* being used as



FIG. 27.—AGLAONEMA COSTATUM.

tively. The first prize was well won by Mr. T. Lambert, who staged beautiful specimens of *Croton Warreni*, *Kentia Belmoreana*, *Ixora Pilgrimi*, *Ixora Williamsi*, and *Dipladenia amabilis*. £10, £6, and £3 were the substantial amounts offered for three prizes in the class for a miscellaneous group of plants, in and out of bloom, to occupy a space of 150 feet (Orchids excluded). The premier award went to Mr. F. Tugwood, gardener to F. Kinersly, Esq., Leighton Hall; Mr. C. Roberts being second, and Mr. Bremmell third.

FRUIT.

In the fruit classes the "decorative dessert tables" formed a feature which was greatly admired. The great Jubilee class of last year was, of course, missed, and the fine season was more favourable than the present one for having many things "up to the mark;" consequently the weakest point, when compared with last year, was in the collections taken as a whole. Black Grapes were magnificent, and although white ones were in many instances large in bunch, they lacked the "golden amber" colour so much to be desired. How is it that in the classes set apart for collections of fruit we see so few new men making any lasting stand against the older ones? Some come to the front occasionally with a

greenery, and trailing *Lycopodium* traced upon the cloth. The Grapes were arranged in baskets, and consisted of the following varieties:—*Crasselas Napoleon*, shapely bunches, large clear well-coloured berries; *Black Duke*, a seedling from *Gros Guillaume*, crossed with *Duke of Buccleuch*. It is a variety of very imposing appearance, having berries which greatly resemble *Gros Colman* in appearance and texture, but the flavour is decidedly better; unfortunately, however, the constitution of the variety is not good. *Muscat of Alexandria* and *Madresfield Court*, one bunch of each, were the other Grapes staged. *Best of All* and *Yorkshire Beauty* Melons made a good pair; *Spencer* and *Pineapple* Nectarines were large and finely coloured; *Violette Hative* and *Stirling Castle* Peaches good; *Brown Turkey* Figs fine; and *Gascoyne's Scarlet* Apple, *Pears*, and *Plums* excellent.

The second prize went to Mr. J. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby. His floral arrangements were light and pretty, choice flowers being thinly displayed in glasses, the table being delicately traced with *Orchids* and *Lycopodium*. His best dishes of fruit were *Gros Maroc*, *Alnwick Seedling*, *Muscat of Alexandria*, and *Canon Hall Muscat* Grapes; *Humboldt Nectarines*; *Golden Eagle* and *Royal George* Peaches; and *Transparent Gage* Plums. The third prize

went to Mr. E. Edmonds, Bestwood, Notts, whose arrangement was tasteful and his Grapes good. Below is given a list of the points as awarded.

Fruits selected from the following.	Possible No. of points.	Points awarded.		
		1st.	2nd.	3rd.
Apples... ..	1	7	5	—
" " " " " " " "	2	6	—	—
Apricots	1	—	—	4½
" " " " " " " "	2	5½	—	4
Cherries	1	—	—	3
Figs	1	5	5	3½
" " " " " " " "	2	—	—	4½
Grapes, black	1	8½	7	7½
" " " " " " " "	2	8	6½	6½
" Muscats, white	1	7	8	6
" any other white	2	8	7	6
Melon... ..	1	5	6	6½
" " " " " " " "	2	5	5	5
Nectarine	1	8	6	5
" " " " " " " "	2	5½	5½	5
Peaches	1	7	7½	4½
" " " " " " " "	2	6	5½	—
Pears	1	6½	6	—
" " " " " " " "	2	6	6	—
Plums... ..	1	—	5½	4
" " " " " " " "	2	—	—	—
Pine	1	—	6	—
Strawberries	—	—	—	5
Beauty of flowers and foliage... ..	—	5	6	5
Harmonious blending of colour	—	7	8	7
General arrangement for effect	—	8½	7½	7½
... ..	...	124½	119	100

Prize value, £12 8s., £11 8s., £10.

For a collection of fifteen dishes, containing that number of distinct varieties, and not less than ten kinds, black and white Grapes to count as distinct, Mr. Goodacre was well ahead, winning the handsome prize of £15 with a wonderfully good all-round collection which did not contain a single weak dish. He staged Muscat of Alexandria and Canon Hall Muscat Grapes, good in bunch and berry, and fairly good in colour; grand, shapely, perfectly coloured examples of Gros Maroc and Alnwick Seedling, a neat Queen Pine, also a Smooth Cayenne, fine Duchess of York and Hero of Lockinge Melons, good Royal George Peaches, Lord Napier Nectarines, Moorpark Apricots, Transparent Gage Plum, Williams' Pears, and grand Lady Sudeley Apples. Mr. McIndoe, who came second, was weaker in Grapes and Pines than he usually is. He showed Chasselas Napoleon Grape in beautiful shapely bunches with clear-bright berries, finely shaped bunches of Gros Maroc, and moderately good Black Hamburg Grapes. The best among his other dishes were Pineapple Nectarine, Princess of Wales and Stirling Castle Peaches. Mr. Edmonds was third, his best dishes being Barbarossa Grapes, Melons, and Nectarines.

Prizes of £8, £6, and £4 were offered in a class for nine distinct varieties; the premier position was here won by Mr. F. Need, York House, Malvern, who tabled a beautiful pair of Madresfield Court Grapes, a fine Ne Plus Ultra Melon, good Spencer and Stanwick Elruge Nectarines, Peaches, Apricots, and Figs. Mr. Bannerman, gardener to Lord Bagot, Rugeley, was a good second, conspicuous among his exhibit being Muscat of Alexandria Grapes, large in bunch and berry, and good in colour. Mr. A. McCulloch, gardener to W. F. Webb, Esq., Newstead Abbey, Notts, being third.

The best collection of nine dishes, open to the county of Salop only, came from Mr. C. Roberts, gardener to Miss Wright, Halston Hall, Oswestry, who put up highly coloured examples of Buckland Sweetwater Grapes, Gros Maroc, wonderfully fine in bunch and berry, but not quite perfect in colour. His Apricots, Peaches, and Nectarines were also good. Mr. J. Langley, gardener to Rev. Bulkeley Owen, Tedsmore Hall, West Felton, was second, his exhibit contained Madresfield Court Grapes, remarkable in size of bunch and berry, but not well coloured. Third Mr. S. Bremmell. Six stands were staged.

GRAPES, OPEN TO ALL.

There is usually strong competition in the class for four bunches of black Grapes in two varieties, as the prizes offered are liberal ones, being £6, £4, and £3. Eight fine stands were tabled, and the winner proved to be one who is often to the front in the Grape classes—viz., Mr. J. Campbell, gardener to C. E. Newton, Esq., Mickleover Manor, Derby. He showed two bunches of grand and superbly finished Black Hamburgs of large size and perfect shape, the berries approaching those of Colman in size. This good old variety is rarely seen in better form. A shapely tapering brace of Madresfield Court bore them company, but the Madresfields were a shade past their best. The second prize went to Mr. Langley, who had good well-finished Hamburgs, and very large and well-finished Gros Maroc. Third, Mr. G. Davies, gardener to Rev. F. Alderson, Welsh Frankton.

For a like number of white Grapes, in two varieties, Mr. Campbell again won with a superb exhibit consisting of Canon Hall Muscat, wonderfully bright in colour, and Muscat of Alexandria finely finished. Mr. T. Lambert followed with Foster's Seedling in very fine condition, and Muscats very large in bunch and berry, but rather deficient in colour.

The third prize went to Mr. Alex. Kirk, gardener to D. Paton, Esq., Norwood, Alloa, N.B., who showed Muscat of Alexandria and Duke of Buccleuch, large in bunch and grand in berry. Thirteen exhibitors contended for the prizes offered for two bunches of Black Hamburgs. Mr. Campbell followed up his previous successes by winning in this strong class also with examples similar to those already described in the four bunch class. He found a very strong opponent, however, in Mr. D. Airdrie, gardener to J. H. N. Graham, Esq., Stirlingshire, who showed grand broad-shouldered bunches carrying large berries, which only wanted a few more berries on the top and a shade more colour to make them perfect. The third award went to Mr. J. Jones, gardener to Mrs. Meed, Malvern, whose bunches were fine, one of them being perfectly coloured, the other slightly deficient in that respect.

In the Madresfield Court class nine exhibits were staged. The premier award went to Mr. J. Jones for compact bunches having large well-finished berries. Mr. J. Campbell followed closely with well-coloured examples slightly smaller in the berry than were those of the winner. Mr. L. Barlow, gardener to F. R. Tremlow, Esq., Market Drayton, was third.

For two bunches of Black Alicante Mr. J. Langley won with very large examples moderately well coloured, Mr. Bannerman being second, and Mr. A. H. Hall, gardener to J. C. Waterhouse, Esq., Macclesfield, third. The class for Gros Maroc was a strong one, eight exhibits being staged. Mr. Campbell proved the winner with large bunches perfect in shape and colour as well as large in berry. He had, however, a narrow escape, as those from Mr. Kirk were dangerously near in point of merit, as the bunches were somewhat larger and the colour good, but the berries carried scarcely so much bloom. Third, Mr. J. Langley.

Seven exhibits of Muscats were put up, the winner being Mr. W. Pilgrim, gardener to Sir J. Meyrick, Bart., Bodorgan. One bunch in this exhibit was large and well finished, the other a little deficient in colour. Mr. Campbell followed closely, and Mr. J. Skitt, gardener to Mrs. H. Bright, came in third. For any other white variety Mr. A. Kirk won with wonderful bunches of Duke of Buccleuch, having grand berries well coloured.

In the six Grape classes which were open to the county of Salop only the first prizewinners were Mr. J. Langley, who won for Black Hamburgs and any other black, and Messrs. Lambert, Dawes, and Tugwood.

SINGLE DISH CLASSES.

Peaches were a strong feature, thirteen dishes being tabled, the first prize going to Mr. Bowerman, Hackwood Park, Hampshire, who had large well-coloured examples of Barrington. Mr. W. Iggulden, Frome, Somerset, was placed second with the largest and showiest dish of Peaches in the show, the variety being Sea Eagle. Mr. Goodacre was third.

The best Nectarines were staged by Mr. J. Howard, gardener to Sir R. Sutton, Bart., Newby, who had beautifully coloured examples of Pineapple. Mr. Bowerman was second, and Mr. C. Crooks, gardener to the Dowager Lady Hindlip, third. Twenty-four lots were put up. Mr. F. Bates, Whitfield, won for Apricots with a highly coloured dish of Early Red. Mr. McIndoe scored well for a dish of green or yellow Plums with Early Transparent Gage in fine condition. For purple Plums Mr. Langley was first with Kirk's. Mr. Durnell, Oswestry, won for a scarlet Melon, and Mr. Pilgrim, gardener to Sir G. Meyrick, for a green-fleshed one. Twelve contestants staged a dish of Cherries, but none of them could beat Mr. Goodacre. Messrs. J. Pearson & Sons, Chilwell Nurseries, Nottingham, offered prizes of £3, £2, £1 for the most meritorious exhibits of Grapes in the exhibition grown with their chemical manure. The first prize was won by Mr. J. Campbell.

Mr. McIndoe won the first prize of £3, offered by With's Chemical Manure Company, for a collection of four Melons. The varieties staged were Best of All, Frogmore Scarlet, Yorkshire Beauty, and a seedling, all of which were in fine condition. A wonderful bunch of Muscats was staged, not for competition, by Mr. Pilgrim; it was of huge size, having large berries, but unfortunately under-ripe.

GARDEN PRODUCE CLASS.

This comparatively new departure was in every way a pronounced success, the Judges declaring the winning exhibit to be the finest of its kind ever seen at an exhibition. The schedule clearly defined that the prizes would be given "for the best arranged collection of garden produce, to occupy a space of 8 feet by 4 feet 6 inches, fruits, vegetables, plants, and flowers to be represented, any foliage being allowed for decoration." Both fruit and vegetables were to be selected from lists given in the schedule. The sum of £25 was offered to be divided into five prizes, in exact accordance with the point value of each collection as awarded by the Judges, acting under the R.H.S. code.

Four collections were set up, and these made a fine display. Mr. Goodacre won with 96½ points. In his arrangement the plants and flowers were so displayed that every dish of fruit and vegetables could be clearly seen. A few light Palms and well coloured Crotons were dotted about, and between these Malmaisons in a cut state were freely used, one or two spikes being fastened in clay covered with moss, Asparagus plumosus and other light foliage being associated with them. The fruit was then arranged in suitable positions between the pot plants and flowers, and tastefully set off with foliage or greenery. Some of the most telling dishes were a huge bunch of Gros Guillaume Grape, weighing 8 or 9 lbs., the berries being perfectly coloured, fine Muscats, Humboldt and Pit-maston Orange Nectarines, Gascoyne's Scarlet Apple, Golden Eagle Peaches, Figs, and Cauliflowers.

Mr. McIndoe came next with 90½ points, his arrangement being

rather different in style. Eulalias and Cocos in pots formed a light wavy background. The Grapes were massed near the front, with a fine brace of Cucumbers set in moss in the foreground, the other dishes being also principally arranged along the front of the table. The Melons, Peaches, Tomatoes, Celery, and Plums were very good in this collection, the Grapes fair. Mr. T. Wilkins, gardener to Lady Theodore Guest, Blandford, was third, and Mr. Bremmell fourth. Below the points are given.

MR. GOODACRE'S EXHIBIT.

Exhibited as per Schedule, selected from	Possible No. of Points.	Points allowed.	Selected from	Possible No. of Points	Points allowed.
Grapes, black	9	6	Potatoes	7	—
" white Muscat	10	6½	Tomatoes, red ...	7	6
" " other...	9	6	" yellow ...	7	—
Peaches	8	6	Cauliflowers ...	7	5½
Nectarines	8	6½	Celery	7	6½
Plums	6	5½	Cucumbers	6	5
Apples	7	—	Carrots	5	—
Pears... ..	8	—	Peas	7	5
Melon	8	6½	Runner Beans ...	7	5½
Cherries	5	—	Broad " ...	—	—
Figs	7	—			
Total ... ..	...	43			33½
Table plants	8	5			
Cut flowers & foliage	10	7½	Total number of points ...		56½
Tasteful arrangement	10	7½	Value of each point, 1s. 4d.		
		20			

First prize. Value of prize awarded, £6 8s. 8d.

MR. MCINDOE'S EXHIBIT.

Exhibited as per Schedule, selected from	Possible No. of points.	Points allowed.	Selected from	Possible No. of points.	Points allowed.
Grapes, black	9	5	Potatoes	7	6½
" white Muscat	10	6½	Tomatoes, red ...	7	5½
" " other .	9	6	" yellow...	7	—
Peaches	8	5	Cauliflowers	7	4½
Nectarines	8	4½	Celery	7	5½
Plums	6	—	Cucumbers	7	3½
Apples	7	—	Carrots	5	4½
Pears... ..	8	—	Peas	7	6
Melon	8	5½	Runner Beans ...	7	—
Cherries	5	—	Broad " ...	7	—
Figs	7	6			
Total ... ..	...	38½			36
Table plants	8	5			
Cut flowers & foliage	10	5½	Total number of points ...		90½
Tasteful arrangement	10	5½			
		16			

Second prize. Value of prize awarded, £6 0s. 8d.

MR. WILKINS' EXHIBIT.

Exhibited as per Schedule, selected from	Possible No. of points.	Points allowed.	Selected from	Possible No. of points.	Points allowed.
Grapes, black	9	5½	Potatoes	7	5
" white Muscat	10	6½	Tomatoes, red ...	7	4
" " other .	9	6	" yellow...	7	—
Peaches	8	5½	Cauliflowers	7	5½
Nectarines	8	5½	Celery	7	4½
Plums	6	—	Cucumbers	7	4
Apples	7	—	Carrots	5	3½
Pears	8	—	Peas	7	—
Melons	8	7	Runner Beans ...	7	—
Cherries	5	4½	Broad " ...	—	—
Figs	7	—			
Total ... ..	...	40½			26½
Table plants	8	5			
Cut flowers & foliage	10	5½	Total number of points ...		83
Tasteful arrangement	10	5½			
		16			

Third prize. Value of prize awarded, £5 10s. 8d.

VEGETABLES.

These are invariably shown in grand form at Shrewsbury. The numerous special prizes offered for collections brought out a remarkable array of exhibits, which in themselves formed a splendid show. Some of the veterans still maintained their proud positions, but others seemed to have dropped back considerably.

Messrs. Sutton & Sons offered handsome prizes for nine distinct

kinds. The first prize of £6 was well won by Mr. W. Pope, gardener to Earl of Carnarvon, Highclere Castle, who staged perfect Magnum Bonum Cauliflower, grand Prizetaker Leeks, Perfection Tomato, Ailsa Craig Onions, Solid White Celery, and International Carrots, Best of All Runner Beans, Duke of Albany Pea, and Suttons' Supreme Potato. The second prize went to Mr. R. Lye, gardener to Mrs. Kingmill, Sydmonton Court; and the third to Mr. Bowerman, Hackwood Park, Basingstoke.

A silver trapot of £10 value was offered by Messrs. J. Carter & Co. of High Holborn for the best collection of twelve distinct kinds. This was also won by Mr. Pope with wonderful examples of Extra Early Autumn Giant Cauliflower, grand Holborn Onions, Duke of York Tomato, Holborn Model Leek, Celery, and Perfection Carrot, fine Model Cucumbers, Elephant Runner Beans, Holborn Reliance Potato, Jersey Lily Turnip, and Perfection Beet. Mr. Waite, Glenhurst, Esher, who was second, had grand Satisfaction Potatoes, good Holborn Onions, Model Leeks, and Perfection Tomatoes. For a collection of twelve varieties Mr. Murrell of Shrewsbury offered four prizes. The first was won by Mr. R. C. Townsend, whose Celery, Cauliflower, and Tomatoes were grand. The second prize went to Mr. J. Robinson, gardener to Rev. D. Hartley, Brampton Brian; and the third to Mr. J. Birch. The same firm offered prizes for six varieties. In this instance the premier award fell to Mr. Guise, who showed a creditable collection.

For the best twelve dishes of Potatoes, for which prizes were offered by Messrs. Prichard & Sons of Shrewsbury, Mr. J. Durnell won, Mr. G. Davies, West Felton, being second, and Mr. J. Cooke, Cornex Farm, third. The first prize in Messrs. Webb's class for a collection of eight kinds was won by Mr. Bowerman, who staged remarkable examples of Ailsa Craig Onion, Giant White Celery, good Regina Tomato, Satisfaction Potato, Eclipse Runner Bean, Enterprise Pea, Carrots, and Early Mammoth Cauliflower. Mr. Pope, who was second, had grand Onion, Carrots, and Celery. Third, Mr. R. Lye, gardener to Mrs. Kingsmill, Sydmonton Court. For a dish of Webb's Tomatoes the latter named exhibitor won. The money prize of £2 10s. and gold medal, which Messrs. Jones & Sons of Shrewsbury offered for a collection of eight kinds, was won by Mr. J. Birch.

Mr. Robert Sydenham, Birmingham, offered a number of prizes for various vegetables. These brought out good competition, and the following were the winners of first prizes:—Mr. W. Nicholson, Newcastle, Staffs, for two dishes of Peas; Mr. C. Crooks, gardener to Lady Hindlip, Droitwich, for Runner Beans; Mr. Pope for Carrots, Mr. Crooks for Parsnips, Mr. Wilkins for Onions, Mr. Pope for Tomatoes, and Mr. Lye for Celery.

Potatoes were shown in large numbers and grand condition. The first prize for five distinct varieties was won by Mr. Ashton, gardener to the Earl of Lathom, Ormskirk, with fine samples of Reliance, Mr. Bresee, Veitch's Prolific, Duke of York, and Sutton's A1. For three distinct varieties eighteen exhibitors competed. The class was a grand one. The winner was found in Mr. J. J. Brewin, Brimstage, Birkenhead, who put up beautiful examples of International, Cigarette, and Mr. Bresee. Mr. Waite was a good second with International, Satisfaction, and Windsor Castle. The last named exhibitor scored a great win in the next class by securing the first prize for a single dish against twenty-one contestants, the winning variety being Windsor Castle. Mr. R. Lye was second with Satisfaction, and Mr. Wilkins third with Windsor Castle.

Mr. A. H. Hall, Macclesfield, won for six Tomatoes with a beautiful dish of Perfection. Mr. R. Lawley occupied a like position for a brace of Cucumbers; Mr. Ashton was the most successful with a dish of Peas, Mr. R. C. Townsend with French Beans. Mr. R. Lye was first for Parsnips, Mr. Wilkins for Carrots, and Mr. G. Risebrow for autumn-sown Onions.

CUT FLOWERS.

A novel and attractive class was this year introduced into this section, and judging from the way the results were appreciated by the visitors, it is hoped the class may be repeated next year.

The schedule required six bouquets and six baskets of cut flowers, plants, Ferns, and cut foliage being allowed for decoration, a space of 10 feet by 5 feet being set apart for each exhibit. The prizes offered were the handsome ones of £15, £12 10s., and £10, a silver cup, value £5, being also given by the President, T. F. Kynnersley, Esq., to the winner of the first prize. Messrs. Perkins & Sons of Coventry (who are generally to the front in these matters) scored an easy victory with a tasteful, varied, and choice exhibit, in which they displayed their unique skill in artistic arrangement and finish. Orchids were largely used, but commoner flowers of suitable kinds were not despised, and one basket in the centre, which was largely composed of Bridal Wreath (*Franea ramosa*) showed plainly how well it was adapted for such purposes. One exceedingly effective bouquet was formed of *Epidendrum vitellinum*, *Odontoglossum crispum*, *Ixoras*, coloured leaves and *Asparagus*. Lily of the Valley, *Pancratium*, and *Odontoglossum crispum* were associated in a bridal bouquet, and a chaste and beautiful combination they made, as the arching spikes of the *Odontoglossum* are so well suited for employment in shower bouquets. *Cattleya gigas* and *Oncidium flexuosum* formed a pleasing combination in another basket, and taken as a whole it would be difficult to meet with a more meritorious exhibit of its kind.

The second prize went to Messrs. Jones & Sons, Shrewsbury, who made an attractive display, Orchids in this case, too, being freely employed, but the exhibit lacked the finish of the winning one, as well as variety of form in the flowers and foliage used. Messrs. Jenkinson and Son, Newcastle, Staffs, were third with a good exhibit, which although

it contained many choice Orchids the effect was in several instances quite spoilt by the introduction of blooms of a "dirty white" Eupatorium.

Messrs. Perkins & Sons were also first for a ball bouquet and bridal bouquet with very beautiful exhibits; second, Messrs. Pope & Sons of Birmingham; third, Messrs. Jenkinson & Son. For two similar bouquets, from which Orchids were excluded, Messrs. Jones & Sons were first with pleasing exhibits. Mr. W. Treseder, Cardiff, won well in the class for one bouquet of Cactus Dahlias, with any kind of foliage, with a pale yellow-tinted variety, arranged in a light and pleasing way. This exhibit also had the merit of not being unduly large. Messrs. Pope & Son were second, and Messrs. Kimberley & Sons, Coventry, third. Messrs. Perkins and Sons were again to the fore with a bouquet of Roses (own foliage), the colours used being apricot, cream, and pale yellow; second, Messrs. Pope & Sons; third, Mr. W. Treseder. Shower bouquet of Sweet Peas with any foliage.—First, Messrs. Pope & Sons, with a very tasteful arrangement in regard to colour blending; second, Messrs. Perkins & Sons. Six buttonholes and six sprays.—First, Messrs. Perkins & Sons; second, Messrs. Jenkinson; third, Jones & Sons.

For a stand of cut flowers for table decoration a very pretty and novel arrangement won Mr. Lorratt the first prize. The stand, which was made of white metal, was fashioned to represent the entrance to the Temple of Flora. Sweet Peas were the only flowers used, but these were tastefully associated with suitable foliage, and the exhibit won easily. For a collection of stove and greenhouse flowers (Orchids excluded).—First, Mr. B. Cromwell, gardener to Sutton Timmis, Esq., Cleveley Hall, Liverpool. Fine bunches of red and white Lapageria were in this exhibit hung from a wire arch covered with greenery at the back, the other bunches being placed in separate glasses and given ample room. All were good, but *Ixora coccinea*, *Dipladenia Brearleyana*, and *Gloriosa superba* should be especially mentioned. The same exhibitor won for six bunches of flowers similar in character. Twenty-four Roses, single blooms.—First, Messrs. D. & W. Croll, Dundee, who staged bright large examples. Some of the best among them were *Her Majesty*, *Etienne Levet*, and *Marie Van Houtte*. Second, Messrs. Harkness & Son, Bedale. This firm won for a collection of *Gladioli*, space 25 feet by 5 feet, with a really grand exhibit, the spikes being large, and the individual flower pipe, of wonderful size, are brilliant in colour.

For a collection of Dahlias, any varieties, space allowed 10 feet by 5, shown with their own foliage and buds, first Mr. Treseder, Cardiff, who had good singles, Cactus, and Shows set up in the usual formal style for collections. Mr. J. Goddard was a very striking variety among the shaded yellows, as also was *Goldfinder*; *Henriette* and *Dr. Keynes* were attractive in other colours. Second Mr. Campbell, High Blantyre, and third Messrs. Keynes, Williams & Co., Salisbury. Each of these two exhibitors adopted a bolder style in the arrangement of their exhibits. In the class for a collection of hardy flowers (annuals and shrubs excluded) to occupy a space of 15 by 5, there were several exhibits staged, which in themselves made a magnificent display. First Messrs. Harkness & Sons, with grand bunches of the leading species and varieties of herbaceous plants. Second Mr. Gunn, Birmingham; third Messrs. Barr & Sons, Covent Garden.

Mr. B. Davis, Yeovil, had the best collection of tuberous Begonias, which made an imposing display, *Klondyke*, *Ajax*, *Stella*, and *Thunderer* (double crimson) were prominent flowers. Carnations were largely and well shown. The best collection came from Messrs. Laing & Mather, Kelso, N.B. Their flowers, which were shown with long stems, were of fine size and colour; *Duchess of Fife*, *The Pasha*, and *Primrose League* were conspicuous varieties. Messrs. Keynes, Williams & Co., Salisbury, secured the first prize for twelve bunches of *Pompon Dahlias* with an exhibit of good quality. *Emily Hopper*, *Lillian*, *Phoebe*, and *Bacchus* were varieties which showed up to advantage in this collection. For twelve Show and Fancy varieties, Mr. Stoddard, Longton, won; and Messrs. Jones and Sons of Shrewsbury obtained the first prize in a strong class for a collection of Cactus Dahlias to occupy a space of 5 feet by 4 feet. Dr. C. H. Sanky, Boreatton Park, won Messrs. Eckford's challenge cup for thirty-six varieties of Peas with a splendid exhibit.

NON-COMPETING EXHIBITS.

These were so numerous that it seems well nigh impossible to justice to them. Mr. E. Murrell, Portland Nursery, Shrewsbury, displayed a fine group of cut Roses of popular varieties, and was awarded a gold medal. Mr. H. Eckford, Wem, Salop, showed a splendid collection of his famous Sweet Peas, and was also awarded a gold medal. Messrs. Prichard & Sons, Shrewsbury, showed a grand collection of border Carnations, in seven or eight dozen sprays; it was an exhibit worthy of honour.

Messrs. F. Sander & Co., St. Albans, staged a group of choice plants, in which their showy new *Acalypha Sanderi* appeared to great advantage. Messrs. H. Cannell & Sons, of Swanley, arranged a circular group of their brilliant new Cannas, which proved a great attraction to thousands of visitors. Mr. W. Sydenham, Tamworth, exhibited *Viola* blooms; Mr. Mortimer, Farnham, Surrey, Cactus Dahlias; and Messrs. Harrison and Sons, of Leicester, a fine collection of Broad Beans. Messrs. Webb and Sons, Stourbridge, hardy flowers, in which their fine strains of *Gaillardias* were seen to advantage. Mr. A. Myres, of Sutton Lane Nurseries, Shrewsbury, staged Zonal Pelargoniums in pots, and a large collection of cut blooms. Messrs. R. Hartland & Sons, Cork, crossed the Channel to bring a collection of tuberous-rooted Begonias.

Messrs. Dicksons, Ltd., Chester, staged a large group of plants and shrubs, including that fine shrub *Cupressus macrocarpa lutea*, and the new *Cordylina Kippis*. Mr. P. Blair, gardener to his Grace the Duke

of Sutherland, staged a stand of a seedling border Carnation named *Trentham Rose*; the colour is a clear rose pink, and the calyx does not split. A first-class certificate was awarded.—H. D.

TROWBRIDGE.—AUGUST 17TH.

THE forty-ninth annual Show of the Trowbridge Horticultural Society was held on Wednesday last, under the most favourable conditions as regards weather, large attendance, and a good all-round display. As is usual Fuchsias were a leading feature in the monster plant tent, and the veteran exhibitor, Mr. George Tucker, who has contributed for so many years plants of such excellence, still claims the foremost position. His plants are perfect models, both in stature, freedom of blossom, and in vigour. Mr. George Bridgman, gardener to E. R. Trotman, Esq., Frome, was a good second, and Mr. Pocock, Trowbridge, third, for six plants; and the same positions were repeated in the class for four plants. For nine specimen flowering plants Mr. Matthews, gardener to Sir Roger Brown, was first; Mr. Pymm, gardener to Mrs. Goldsmith, second, and Mr. Geo. Tucker third. The last named easily secured the first prize in the class for six plants, he having beautifully flowered and well-trained plants of *Bougainvillea Sanderiana*, *Clerodendron Balfourianum*, *Dipladenia Brearleyana* (very fine), *Ixora Moori*, *Statice Gilberti*, and *Allamanda nobilis*; Mr. Matthews was second, and Messrs. W. J. Stokes and Son third. For three specimens Mr. Tucker was again successful, having extra fine *Dipladenia Brearleyana*, *Bougainvillea glabra*, and *Ixora Tuckeri*. Mr. Matthews had an unusually handsome specimen of *Rondeletia speciosa major*, and *Erica Austiniana* in his exhibit.

Ferns and Mosses (fifteen plants) made the largest show seen for some time, and here Mr. Tucker still maintained his reputation by taking first, followed by Messrs. Stokes & Son and A. P. Stancomb, Esq., in the order of their names. In the class for nine foliage plants Sir Roger Brown won first with some fine specimen Palms and Crotons. Messrs. E. S. Cole & Son, Bath, and Mrs. Makay, Trowbridge, secured the remaining prizes. Three very pretty groups were contributed by Messrs. Pymm, Rodwell Hall, E. S. Cole & Son, and Mr. Strugnelli, gardener to Colonel Drexel, Rood Ashton. Begonias, both double and single, were well shown, as also were *Gloxinias*, Zonal Pelargoniums, *Coleus*, and *Caladiums* by Messrs. G. Tucker, J. Cray & Sons, Frome; H. Mathews, G. Pymm, J. Kemp, W. Gee, and G. Riddiman.

Cut flowers made an attractive and extensive show. Roses were very fine, and especially those from Mr. Mattock, Oxford, who carried off no less than six first prizes. Messrs. T. Hobbs, Bristol; S. P. Budd, Bath; A. Hill Gray, Bath; A. A. Walters, Bath, being other successful competitors. For twenty-four Dahlias, distinct, Mr. J. Walker, Thame, was first; and for twelve varieties Messrs. Cray & Sons, Frome, were first; and Mr. Lindsey second. Mr. Geo. Humphries, Chippenham, took first for twelve Fancies; Mr. Walker second. The twelve varieties of single Dahlias made a pretty feature. Messrs. J. Burgess, Bristol; T. Carr, Twerton; and J. Walker being the winners, the last named taking the lead with *Pompons* twelve varieties, Mr. Humphries showing the best Cactus. *Gladioli* made a good show, as also did *Hollyhocks*, a flower not often found on exhibition stands. Sweet Peas in nine varieties formed a new class. Asters were numerous, and cut "Geraniums" very bright.

Fruit, though not so extensively staged as in some seasons, was generally of fine quality. In the class for a collection of ten varieties Mr. Strugnelli was awarded the first prize, having good *Alnwick Seedling* and *Muscat Grapes*, *Triumph Melon*, *Bellegarde Peaches*, *Pineapple Nectarines*, *Brown Turkey Figs*, *Washington Plums*, *Apricots*, and *Apples*. Mr. Fisher, Batheaston, was given the third prize. There were five entries for six dishes, Mr. Pymm securing first with fine *Royal George Peaches* and *Lord Napier Nectarines*, *Black Hamburg* and *Muscat Grapes*, *Melon*, and *Apricots*. Mr. Strugnelli second with good *Trentham Black Grapes* and fine *Stanwick Elruge Nectarines*. Mr. Young, gardener to the Earl of Cork, Marston, Frome, took first in the class for two bunches of black Grapes, staging very fine *Gros Maroc*. Mr. Marshall, gardener to J. Dole, Esq., Bristol, second, with the same variety.

Mr. Smith, gardener to the Lord Bishop of Salisbury; Mr. Strugnelli; and Mr. Clack, gardener to E. Colston, Esq., M.P., Devizes, won for black Muscats in the order of their names. Mr. Smith and Mr. Marshall won with any other white, staging finely coloured *Buckland Sweetwater*. Mr. Young was the only competitor with white Muscats, and he deservedly won first prize with handsome bunches. Melons were numerous staged in two classes provided, Messrs. Bull, Clack, Strugnelli, Gee, Mabbott, and the Frome Flower and Fruit Co. taking the several prizes. Plums, for the season, were fairly plentiful, and so were Peaches and Nectarines. Apples, Pears, Cherries, and Filberts were not so good as usual.

Vegetables were good, but the entries fewer than is common to the Trowbridge shows generally. In the open classes for a collection of nine sorts Messrs. G. Garraway, J. M. Swaine, and J. Hall were successful. Mr. Garraway also won Messrs. Webb's prize for a collection of six varieties, Mr. Price, Shepton Mallet, taking second prize. Messrs. Hall, Huth, and Ackland, gardener to A. G. Hayman, Esq., won in Messrs. Sutton's class; and Mr. Garraway secured the first prize offered by Messrs. Toogood. The Fruit and Flower Co. won with a single dish of Tomatoes, Mr. Strugnelli with spring-sown Onions and Turnips, Mr. Parrot with Cucumbers and Cauliflowers, Messrs. Stokes Potatoes (kidney, round, and seedling), the Rev. R. W. Alsopp Marrows and Celery. Many other classes were provided for vegetables in the open, amateurs and cottagers, all of which brought out good competition and high quality throughout.

The Society is well supported by an influential list of patrons and a

large committee, and in Mr. George Snailum they have a secretary deserving of their confidence, and on whom the major portion of the work devolves. Upwards of 10,000 persons visited the show during the afternoon.

PONTEFRACT CASTLE.—AUGUST 18TH.

IN this neighbourhood the combined businesses of market gardener and Liquorice grower is general. The historic ruins of the Castle standing in extensive grounds, now laid out as pleasure grounds with a roomy stretch of lawn, form an admirable place for holding a horticultural show. It is also the nearest centre to numerous well-managed and extensive garden establishments of the nobility and county families around, yet no previous efforts have been made to establish a horticultural society worthy of so highly favoured a district. To remedy this state of things the Committee of the Castle grounds wisely called to their aid Mr. Easter, gardener to Lord St. Oswald; Mr. Taylor, gardener to Sir J. Ramsden; Mr. Fenner, gardener to Lord Crewe; Mr. McFarlane, gardener to Hope Barton, Esq., Stapleton Park, and several others, thus forming a strong Committee, commanding the confidence of the public and exhibitors. The result was a fine show in all departments.

One large tent was filled with stove and greenhouse plants, including four splendid groups of plants arranged for effect. Mr. T. Sharp Almondbury, secured the first prize with an exceedingly creditable display, surpassing many of his previous efforts in a very successful career in this department; Messrs. Simpson & Sons, Selby, were a close second; Messrs. Lamprey & Son, Ackworth, were placed third, showing an exceedingly neat and effective arrangement. Mr. J. Sunley, Monk Fryston, fourth. Mr. Sharp was first for six stove and greenhouse plants in bloom, which included fine examples of *Anthurium Scherzerianum*, *Stephanotis floribunda*, and *Pancratium fragrans*, carrying seven massive umbels of bloom; Messrs. Simpson & Son second, and Mr. Sunley third. For six fine foliage plants Messrs. Simpson & Son were first, Mr. Sharp second, and Mr. Sunley third. Exotic Ferns were represented by good examples. Messrs. Simpson & Son first; Mr. Walker, gardener to his Honour Judge Cadman, second; and Mr. Sharp third. For twelve bunches of cut bloom, stove and greenhouse flowers, Mr. Pearson, gardener to Mrs. Tew, Carlton Grange, was first; Mr. Taylor, gardener to Sir J. Ramsden, Byram Hall, second; Mr. Lamprey third.

As usual Roses were well shown by Messrs. J. & R. Callam, Wakefield, who secured first prizes for the Hybrid Perpetual classes and for Tea Roses. Herbaceous cut blooms made a bright and very effective display, Mr. Taylor securing first position with a stand of high quality; Messrs. J. and R. Callam were second, and Messrs. Lamprey & Son third.

The fruit classes were generally of a high quality, small fruits being especially worthy of commendation. Mr. Nichols, gardener to Lady Beaumont, Carlton Towers, was well ahead for six kinds, including black and white Grapes, Madresfield Court being finely finished; second Mr. Ketchil, gardener to Chas. Simpson, Esq., Ackworth; and third, Mr. Taylor. For two bunches of black Grapes Mr. Nichols secured first with Madresfield Court; Mr. Fenner, gardener to Earl Crewe, Fryston, was second; Mr. Ketchil third. For white Grapes the same exhibitors secured the prizes in the same order.

CRYSTAL PALACE CO-OPERATIVE.—AUGUST 19TH AND 20TH

SELDOM have the resources of the Crystal Palace been more taxed than was the case last week, when the National Co-operative Society held its great annual show, under the secretaryship of Mr. E. Owen Greening, with Mr. G. Waugh as Director. Almost the whole of the centre transept was occupied with exhibits of vegetables, flowers, plants, and fruits. Not only was there quantity, but also quality, the vegetables especially, both from amateur and professional growers, being of a high-class order. It would be a great advantage if the Society could make it a rule that every exhibit should be correctly named, as this would so materially add to the educational value of the exhibition. For example, there were scores of vegetables unnamed, and these, unfortunately, comprised several of the best exhibits in the show.

The entries exceeded in number and variety combined those of any previous year, numbering 4321. They came from all parts of the kingdom, except the extreme North and Scotland. Each division of the kingdom competes separately, so that North is not pitted against South, or East or West. The contrast in respect of variety of exhibits was remarkable between the present show and the earlier ones of ten to twelve years ago, when Potatoes, Cabbages, and a few other leading vegetables represented all the kinds shown by workmen. This year in the industrial section Potatoes lead with entries of 239 dishes, and there were also 146 entries of Beans, 107 of Vegetable Marrows, 86 of Onions, 83 of garden Turnips, 79 of Peas, 79 also of Beet, 60 of Shallots, 56 of garden Carrots, 53 of Lettuces, 38 of Parsley, 35 of Celery, 31 of Cabbages, 24 of Cauliflowers, 15 of Radishes, and 11 of Leeks. In flowers also the workmen's section shows wonderful development. The workmen's fruit entries numbered 159. The entries in the section for members of the Agricultural and Horticultural Association, and for professional gardeners, were, of course, distinguished by the inclusion of choice varieties of hothouse fruit and greenhouse plants and flowers. The vegetables ran to 455 exhibits; the cut flowers entries numbered 407; the pot plants 166, many being for collections; and the fruit 155, many of these being also collections.

In the section open to professional gardeners and members of the Association there were some splendid vegetables shown, though collections were by no means numerous. In the class for ten kinds of vegetables for growers in the southern district, Mr. C. J. Waite, gardener

to the Hon. P. Talbot, Glenhurst, Esher, was a good first with a stand comprising Solid White Celery, One and All Cauliflower, Ailsa Craig Onions, Intermediate Carrots, Blood Red Beet, Leek, Perfection Tomato, Satisfaction Potatoes, Best of All Runner Beans, and Autocrat Peas, all in fine condition. Mr. J. Holton, Oxford, was a good second with best examples of Ailsa Craig Onions, Intermediate Carrots, and Satisfaction Potatoes. Mr. R. Wadham, Aston, was third, and Mr. T. Daun, St. Mary Cray, fourth.

Some grand specimens were staged in the classes for One and All Runner, ordinary Scarlet Runner, and French Beans. There were upwards of thirty dishes in all. For the two Runners Mr. J. Holton was first, Mr. Wadham second, and Mr. W. Emerton, Buckingham, third; while for the French Beans, Messrs. W. Emerton, J. Holton, and O. Basile, gardener to Rev. A. Powell, were the prizewinners. Longpod and Broad Windsor Beans were also fine, Mr. R. Tunbridge, Chelmsford, and W. Emerton being the respective first prizewinners. The last named also showed the best Blood Red Beet, and Mr. C. J. Waite the best Turnip-rooted. Green Cabbage, for quality and size without coarseness, were good, Mr. O. Basile scoring. Red Cabbage under the same restriction was finely staged by Mr. J. Nowell, Oxford.

Carrots in different varieties were splendidly and numerous staged, the best coming from Messrs. J. Holton and W. Emerton, Mr. C. J. Waite going ahead with Early Dwarf Mammoth Cauliflowers. Mr. O. Basile was most successful with Cos Lettuce, and was followed by Messrs. R. Wadham and W. Palmer in the order named. For three Cabbage Lettuces Mr. W. Emerton was first, Mr. C. J. Waite second, and Mr. O. Basile third.

The number of dishes of Potatoes was very great, and seldom have tubers of better quality been staged in the Crystal Palace. Not one or two, but many, were excellent. For a collection of six varieties, three each of round and three of kidney, distinct, the competition was good. Mr. C. J. Waite staged the best, his varieties being Snowdrop, Supreme, Satisfaction, London Hero, International, and Windsor Castle. Mr. J. Holton was a good second, and Mr. O. Basile a creditable third. For a single dish of white kidney Potatoes Mr. C. J. Waite was first with beautiful examples of International, Mr. J. Holton being second with very little inferior examples of the same variety. Mr. Wadham was third. Peerless Rose, in fine form, won for Mr. J. Holton the premier award in the class for coloured kidneys. Mr. Wadham was second with Mr. Bresee, and Mr. O. Basile third with Edgecote Purple. For a dish of white round Potatoes, one variety, Mr. C. J. Waite, with Windsor Castle, again secured the lead, and was followed by Mr. J. Holton with the same variety, and Mr. R. Chamberlain. Mr. W. Emerton, with Lord Tennyson, was first in the class for coloured rounds, Messrs. J. Holton and C. J. Waite following in the order named.

The prizes in the four classes set apart for Onions were very keenly contested for, and many were the handsome bulbs exhibited. They were good not only in size and solidity, but also in appearance. For nine bulbs from spring-sown seeds Messrs. W. Emerton, O. Basile, and C. J. Waite annexed the prizes in the order in which their names are here given. In the class for White Spanish Mr. R. Chamberlain was a fine first, Mr. J. Holton second, and Mr. F. Veale, Oxford, third. In the remaining two Onion classes the prizewinners were Messrs. J. Holton, R. Wadham, R. Chamberlain, G. Palmer, W. Emerton, and F. Veale. For six Parsnips Mr. O. Basile was a capital first, followed by Mr. J. Holton and Mr. C. J. Waite. Mr. W. Emerton secured the premier prizes in each of the classes for Peas, the remaining awards being divided between Messrs. J. Holton, R. Chamberlain, R. Wadham, and C. Moody, Penge.

Mr. C. J. Waite's first prize exhibit in the class for a collection of six varieties of salads was most creditable, and deserved its position. It comprised Celery, Cucumbers, Radishes, Tomatoes, Beet, and Lettuces. Mr. R. Wadham was a capital second, and Mr. O. Basile third. For three dishes of Tomatoes in distinct varieties Mr. O. Basile was first with Large Red, Mammoth, and Perfection. Mr. A. Tunbridge was second, and Mr. R. Chamberlain third. For a single dish of Tomatoes the prizes went to Messrs. O. Basile, R. Wadham, and W. Emerton in the order in which their names are here given.

The fruit section was, of course, not so extensive as that devoted to vegetables, but some handsome products were staged by the several growers. The classes were comparatively few in number, but were mostly well filled. For a collection of three varieties of cooking Apples Messrs. S. Chapman, W. Emerton, and O. Basile all staged well for the prizes, while for a similar number of dessert varieties Messrs. R. Felton, St. Mary Cray, R. Wadham, and O. Basile showed best. For a collection of six fruits, exclusive of Pines, the premier award went to Mr. C. J. Waite, whose exhibit comprised black and white Grapes, with a Melon, Peaches, Nectarines and Apricots. Mr. T. Osman, Chertsey, was second; and Mr. R. Chamberlain third. For five dishes of hardy fruits Mr. T. Osman went ahead with Green Gages, Nectarines, Peaches, Figs, and Apricots. The prizes in the classes for single dishes of fruits were, as a rule, well contested for, and some of the fruits were fine.

Cut flowers and flowering and foliage plants in pots made a most attractive display. The number of individual exhibits was very large, and needless to say several of them were of high quality. There were classes for almost all kinds of hardy flowers now in bloom, with others for Ferns, window plants, Lilliums, Begonias, and so on. Bouquets and baskets of flowers were of fair average quality, several of them being far too dull and heavy to be really effective. The premier prizewinning table decoration from Mr. W. Smith of Harrow was most creditable. Unfortunately, we cannot give the names of prizewinners in these classes.

What is termed the industrial section was excellent, more particularly

amongst the vegetables, the collections of which from various parts of the country being highly creditable. The classes for Cabbages, Carrots, Beet, Tomatoes, Vegetable Marrows, and the several other kinds of vegetables were all good, as were those for fruits and flowers.

BRIGHTON.—AUGUST 23RD AND 24TH.

THE summer show of the Brighton and Sussex Society was held in the Royal Pavilion, and proved to be an excellent exhibition in every respect. The groups of plants and Ferns, always a noteworthy feature here, were quite up to the average. The Dahlias, hardy flowers, and floral decorations were also excellent, while the fruit and vegetables were not only numerous, but excellent in every way. The arrangements were well carried out under the able directorship of Mr. J. Lewis. Non-competitive exhibits were numerous and good.

There were three groups to contest the premier class in the show, a semicircular group of plants, 18 feet by 10 feet, arranged for effect. All were well arranged and very effective. Mr. G. Miles, Victoria Nursery, Brighton, secured the blue ribbon. The plants employed were chiefly Crotons, Cocos Weddelliana, Dracænas, Caladiums, and Asparagus. The flowering section was represented by Orchids in variety, Gloxinias, Carnations, Lilliums and Roses. Mr. E. Meachen, gardener to Mrs. Armstrong, Withdeane, must have been a very close second. The chief features were Allamandas, Ixoras, Cattleyas, Gloxinias, and Francoa ramosa for the flowering plants; while Crotons, Palms, Caladiums, and Coleuses constituted the chief foliage plants. Mr. B. Lister, gardener to E. A. Wallis, Esq., Brighton, was third with a good group of well-coloured Crotons, Palms, Celosias, Gloxinias, and Begonias.

In the class for a group of Ferns, arranged for effect, Mr. Jas. Adams, gardener to the Rev. Sir G. E. Shiffner, Hamsey, Lewes, secured the first prize with a very artistic group; the excellent specimens of *Adiantum farleyense* were the most prominent feature. Mr. G. Miles second with a group of equally well-grown plants, though somewhat lacking in variety when compared with the former group. Mr. W. Goodliffe, Worthing, third. The tables of flowering and foliage plants were a fine feature, and the competition keen. Mr. R. Lister proved the victor with a very bright arrangement composed chiefly of Palms, Asparagus, Carex, and Ferns, with Celosias, Gloxinias, and Begonias for flowering plants. Mr. E. Lawrence, gardener to T. Oliver, Esq., Horsham, second; Mr. G. Miles, third. For six stove and greenhouse flowering plants, Mr. John Warren, Handcross Park, Crawley, was first with good plants of *Lapageria rosea* splendens, *Ixora regina*, *Bougainvillea Sanderiana*, very well flowered; *Ixora Williamsi*, *Lapageria rosea*, and *Allamanda Hendersoni*. Mr. E. Meachen second with good plants of *Stephanotis*, *Ixora*, and *Erica Cavendishi*. In the class for six stove and greenhouse Ferns, Mr. J. Warren secured the first place with a fine even exhibit. The plants were *Nephrolepis davallioides furcans*, *Microlepia hirta cristata*, *Davallia polyantha* (grand), *D. Mooreana*, *Adiantum cardiochlena* and *Marattia alata*. Messrs. W. Miles & Co., Hove, second with smaller specimens. Messrs. W. Miles & Co. secured first for a single specimen Palm with a grand plant of *Kentia Forsteriana*; Mr. John Warren second with the same species; Mr. F. Rapley, gardener to Miss Visick, Withdeane, third. For a single specimen flowering plant Mr. E. Meachen was first with a good plant of *Bougainvillea Sanderiana*, Mr. J. Warren second with a plant of *Erica exquiritia*.

For six Coleuses, distinct, Mr. J. Hill, gardener to W. C. Willis, Esq., Withdeane, was placed first with very good plants, well coloured and shapely. Mr. W. E. Anderson, gardener to B. Parish, Esq., Brighton, second with good specimens a trifle smaller. Mr. G. Sims, gardener to J. R. Cattle, Esq., Brighton, third. Mr. J. Warren was to the fore for a single specimen Croton with a fine piece of *C. Weismanni*. Mr. E. Meachen second with a fine plant, though the colouring was not so bright. For six Crotons, distinct, Mr. H. Garrett, gardener to R. G. Fletcher, Esq., Mount Harry, Preston, was first with well-coloured plants of *C. Mrs. Dorman*, *Williamsi*, *picturatus*, and *Warreni*. Mr. J. Warren second with smaller but well-coloured plants. Mr. E. Lawrence third. Mr. H. Garnett also gained the first prize for six *Dracænas* with good plants of *D. Massangeana*, *Cooperi*, *Fredericki*, and *Baptisti*. Mr. J. Warren was second, and Mr. E. Lawrence third.

For twelve bunches of Cactus or Decorative Dahlias Mr. S. Mortimer, Farnham, was placed first with a fine exhibit; the varieties were Mrs. John Goddard, Keynes' White, Miss A. Nightingale, Bridesmaid, Britannia, Night, Lady Penzance, Starfish, Mary Service, Countess of Gosford, Capstan, and Mrs. W. Noble. Mr. Jas. Stredwick, St. Leonards, second with good bunches of Magnificent, Britannia, Starfish, and Cinderella. Mr. H. Shoemith, Claremont Nursery, Woking, third. For twelve bunches of Pompons Messrs. J. Cheal & Sons, Crawley, were first with a capital exhibit; the varieties were Donovan, Sunny Daybreak, Phoebe, E. F. Junger, Dr. Jim, Nerissa, Whisper, Hypatia, Boule d'Or, Emily Hopper, Douglas, and Ganymede. Mr. J. Stredwick second with good examples of Whisper, Tommy Keith, Arthur West, and Bacchus. Mr. F. W. Seale, Sevenoaks, third. Messrs. J. Cheal & Sons were well ahead for twenty-four bunches of single Dahlias; the best varieties were W. C. Harvey, Miss Morland, Formosa, Aurora, May Sharpe, Jeannette, and Naomi Tighe. Mr. W. F. Seale, Sevenoaks, second with a very even exhibit; conspicuous were Leslie Seale, Polly Eccles, W. C. Harvey, Aurora, and Mrs. Barker. In the class for forty-eight Show and Fancy Dahlias Mr. S. Mortimer was well ahead. Mr. F. W. Seale second with rather weaker flowers; Messrs. J. Cheal & Sons third.

The competition for twenty-four bunches of stove and greenhouse flowers, distinct, was very keen. Mr. W. Archer, gardener to Miss Gibson, Saffron Walden, secured the premier honours with a grand box.

The most conspicuous forms were *Lapageria alba*, *Anthurium Andreanum*, *Erica cerinthoides coronata*, *Allamanda grandiflora*, *Dipladenia amabilis*, and *Eucharis amazonica*. Mr. J. Davis, gardener to Major Davis, Cuckfield, second with a capital box, which included *Cattleya gigas*, *Dendrobium chrysanthum*, *Cypripedium barbatum*, *Lapageria alba*, and *Dipladenia amabilis*. Mr. J. Warren third, the latter exhibitor staging a good variety of *Ericas*. For twenty-four Roses, distinct, Mr. Will Taylor, Hampton, was placed first with a very good display. The best flowers were Ernest Metz, Dupuy Jamain, Viscountess Folkestone, Madame Hoste, and Catherine Mermet. Mr. John R. Box, Croydon, second with good blooms of Mrs. S. Crawford, Mrs. J. Laing, Marie Rady, and Marchioness of Londonderry. Mr. G. W. Piper, Uckfield, third. For twelve Teas and Noisettes, distinct, Mr. H. Harris, gardener to Mrs. Eversfield, Horsham, was first with good flowers of Maman Cochet, Marie Van Houtte, Catherine Mermet, The Bride, and Perle des Jardins. Mr. G. W. Piper second, Mr. J. R. Box third. For a collection of hardy flowers Mr. J. Charlton, Pantiles, Tunbridge Wells, secured first place with a very good display. The most notable features were *Lilium auratum*, *Scabiosa caucasica*, *Alstromeria peregrina*, and *Gaillardia grandiflora*. Mr. W. Manton, gardener to C. F. Borrer, Esq., Cuckfield, second.

Great interest was shown in the competition for a collection of fruit, flowers, and foliage arranged on a table. Mr. D. Gibson, gardener to J. B. Johnston, Esq., Kingston-on-Thames, proved the victor with an admirable display of fruit and flowers; the former were represented by good Muscat of Alexandria and Black Hamburgh Grapes, Peaches and Nectarines, Plums, Cherries, Apples, Pears, and Melons.

Mr. G. Duncan, gardener to C. J. Lucas, Esq., Warnham Court, Horsham, was first for three bunches of Muscat of Alexandria, with very fine bunches, good in berry and colour. Mr. W. Mitchell, gardener to T. W. Fleming, Esq., Romsey, Hants, second. Mr. W. Taylor, gardener to C. Bayer, Esq., Forest Hill, third. Mr. W. Taylor secured the first for any white variety with fine examples of Buckland Sweetwater. Mr. W. Cheater, gardener to Sir W. Pink, Cosham, second with Canon Hall Muscat; and Mr. Thos. Osman, Ottershaw Park, Chertsey, third. Mr. W. Mitchell was first for three bunches of Black Hamburgh, with good examples; Mr. Thos. Osman second with large bunches; Mr. J. Allen, gardener to G. H. Field, Esq., Tunbridge Wells, third. Mr. W. Mitchell was first for any other variety black Grape with Gros Maroc, very fine in berry and bunch; Mr. W. Taylor second with well coloured bunches of Madresfield Court; Mr. Thos. Osman third with large bunches of Alicante.

THE YOUNG GARDENERS' DOMAIN.

LILIUMS.

THE genus *Lilium* is one of the best known in the order Liliaceæ. Most of the species are of easy culture, and many of them are quite hardy, hence they are much favoured for garden decoration. They solicit praise by their elegant habit and splendid flowers, which are not only beautifully coloured, but many of them have a very sweet scent. They may be cultivated in beds or borders outside, or in pots.

Lilium auratum is one of the commonest of the species in cultivation both for planting outside and growing in pots. It is so well known that a description might be superfluous. There are several varieties differing slightly from the type in colour and form of flower. The type is hard to beat with its large white flowers, sometimes a foot across, and each petal marked with a band of bright yellow up the centre and many dark purple spots, increasing towards the throat.

The bulbs should be procured in spring, as they are then likely to be in good condition, at least better than those imported from Japan in the autumn. A sheltered moist position should be selected for them, and if there is any choice it ought to be a peaty and well drained soil. Between the first and second rows in a *Rhododendron* bed is a place where they would look well when in flower, and where the shade and shelter would be beneficial when the growths were young. The bulbs should be planted 5 or 6 inches deep, and ought to receive some fresh compost of peat and light loam with a little sand. If it is inconvenient to store them in a cool but not dry place for the winter, and they must be left in the open, they should have a mulching of leaf mould. Manure may be applied with advantage before the flowers appear, as that will aid in retaining moisture in the soil, as well as affording nutriment at the time when they most require it.

The plants must be securely staked, otherwise the wind would probably break the stems, which should not be cut till they have thoroughly decayed. If cut when green the bulbs will be robbed of their supply of nutriment for attaining full development.

L. candidum is a very good white. It does not grow so tall as *L. auratum*, and is therefore more suitable for mixing with dwarf shrubs.

The old *L. chalcedonicum* still finds favour. It is usually of a scarlet hue with only three or four flowers on each stem. There are many species worth mentioning, but I will only name a few others which I have noticed. *L. croceum* has golden flowers with a tinge of scarlet at the tips of the petals. *L. elegans* is deserving of more favour than it usually gets. The flowers are few on each head, but they are of a pale red colour, and the stems are usually dwarf. The variety *atro-sanguineum* is specially good for its fine dark red colour. *L. longiflorum* is among the handsomest of the genus. Its large white flowers are very fragrant. It only attains a height of from 1 to 2 feet, and is well adapted for beds out of doors. *L. Martagon*, the famous Turk's Cap Lily, is often seen on herbaceous borders and the edges of shrubberies. One stem may be seen to carry as many as twenty flowers arranged in a pyramidal raceme about

a foot long. They are a dull pink or reddish-purple colour. The stems are about 3 feet high, and the leaves are distinctly whorled.

L. speciosum, often erroneously called *L. lancifolium*, is very largely grown as a pot plant. It varies in colour, but is usually white, shaded and spotted with dark red. The variety *roseum* is a favourite for exhibition purposes. It is pure white tinted with rose.

L. superbum is from the United States. The flowers are orange yellow and profusely spotted with dark brown. The petals are much reflexed. *L. tigrinum* is a well known species commonly called the Tiger Lily. It has orange-red flowers with many dark purple spots. The variety *splendens* is more majestic than the type, and the spots are fewer and not so small.—X. L. C. R.



FRUIT FORCING.

Figs.—Earliest Forced Trees—The earliest forced trees in pots may be placed outside if the wood be ripe, but if there is any doubt about it the trees should be continued under glass with a free circulation of air. These are matters on which the cultivator will need to exercise judgment. In either case the trees must not suffer for want of water at the roots, and any roots that have extended beyond the pots ought to be cut off, affording water only to keep the foliage fresh.

The earliest forced planted-out trees will now be ripening their wood, and watering must be discontinued, air being given very liberally. If however, the second crop is not yet ripened, moderate moisture in the soil will be necessary, with a free circulation of air to insure high quality in the fruit. When the fruit is all gathered the wood not further required should be cut away in favour of the successional growths, and these allowed to point towards the light will become matured at their extremities, which is vital to a full first crop another season.

Unsatisfactory Trees.—If any of those planted in houses grow too rampantly, and produce thin crops in consequence, root-pruning should be resorted to, and the roots confined to a narrow border from 3 to 4 feet in width. But to secure a first crop of fruit another season it is necessary to accelerate and thoroughly ripen the wood. Trees, therefore, which are unsatisfactory in cropping, should have a trench taken out as deeply as the roots, at a distance of 3 or 4 feet from the stem, all the roots being detached. The tendency to a late growth will then be checked, the ripening of the wood promoted, and the formation of embryonic Figs induced. The trees may be lifted as soon as the leaves give indications of falling, replanting in fresh soil.

Melons.—Plants in Houses.—Sufficient water to keep the soil in a moist condition must be given whilst the fruit is swelling. After it has ceased swelling afford no more water than suffices to keep the foliage from flagging. Stop laterals to one leaf of successional growth, rub off all superfluous shoots as they show, thin the laterals where too crowded, not allowing these to interfere with the principal leaves, or to retard the swelling of the fruit. Plants with fruit advanced for ripening should be kept drier at the roots, and have air liberally, avoiding a close atmosphere, as that frequently results in the fruit cracking, and generally causes the flavour to be inferior. The temperature should be maintained at 65° to 70° by night, 70° to 75° in the day, with 10° to 15° rise from sun heat.

Latest Plants in Houses—The plants from a late July sowing will now be strong, and put out without delay will afford a supply of fruit about Martinmas. Train with a single stem two-thirds up the trellis without stopping, and rub off every alternate lateral on opposite sides of the stem. Fruit will show freely on the laterals at the second or third joint, and by carefully fertilising the blossoms the fruit sets freely in a rather dry and warm atmosphere. By afterwards maintaining a temperature of 70° to 75° by artificial means the fruit swells rapidly, the bottom heat being steady at 80° to 85°, and the atmosphere moderately moist.

Plants in Pits and Frames.—The latest plants have the fruit set and swelling freely, and will be better for a good lining, so as to insure steady progress and admit of ventilation. Heated pits will be the better for a gentle warmth in the hot-water pipes on cold nights and on dull days or cold nights. Gentle heat affords facilities for ventilation, a little being given to insure evaporation and the consequent elaboration of the sap. The plants may be sprinkled over the foliage early on fine afternoons, avoiding the stems or collars, and closing before the temperature has receded to 80°, so as to raise the temperature to 90° or 95°. Admit a little air at 75°, increase it with the increasing sun heat, and keep through the day at 85° or 90° by that means. Employ coverings over the lights on cold nights.

Pines.—Potting Rooted Suckers.—Those obtained from the summer fruiting plants will soon be ready to shift into large pots. It is well, however, to divide the plants into two batches, and the strongest should be shifted into their fruiting pots as soon as ready, employing 10 or 11-inch pots according to the kind, the smaller for Queens, affording them a position near the glass in a light airy house, where they can be kept gently growing through the winter. The plants treated in that manner will be readily excited into fruit next May or June, and will

afford a good successional supply of ripe fruit in late summer or early autumn. The other plants—suckers from the summer fruiters, not large enough to shift into fruiting pots—winter best in 7 or 8-inch pots, transferring them to larger ones as soon as ready in spring, which, with the suckers of Smooth-leaved Cayenne that were started last March, will afford a successional supply of ripe fruit through the winter months.

Re-arranging Plants—About this time a re-arrangement should be made in order to secure the best conditions for them, separating the non-fruiting from the fruiting, as many of those started from suckers of last summer's fruiting plants will have fruit swelling. These must have the best position possible, so as to insure the fruit finishing well. Those plants not fruiting will have completed their growth, and should have air very liberally for the next six weeks when the temperature exceeds 80°, maintaining the bottom heat steady at 80°, and all well-established plants should have a bottom heat of 80° to 85°.

Fruiting Plants.—Moderate atmospheric moisture is essential to the swelling of the fruit, but a close atmosphere unduly enlarges the crowns, and the sun acting powerfully on the fruits while damp, causes their discolouration. Admit, therefore, a little air at the top of the house early in the morning, so as to allow of any superfluous moisture escaping before the sun's rays act powerfully or directly upon the fruit. Any fruit it is desired to retard should be moved to a cool or shady house, affording abundance of air.



UNMARKETABLE HONEY.

WHAT is to be done with the unsaleable honey that many bee-keepers have on hand? This is a serious question, as, judging from the reports, the past season has been more favourable for honey production than has been the case for several years past; but with few exceptions it is of inferior quality, and being so dark in colour any bee-keeper who has a reputation to keep up would not attempt to place it on the market.

We will briefly state how we intend utilising it in our apiary, and if others will work on the same lines it will be interesting to note a few months hence how bees have wintered under the altered conditions in various parts of the country. We have no doubt of the ultimate success of the experiment, but it should be tried under different conditions.

DOUBLED HIVES.

We use the term doubled hives, to distinguish them from those having supers in some other form. As is well known, we advise and practise the use of full-sized frames for supers, and as they have not been extracted from for several weeks past they are at the present time sealed over with immense slabs of honey, and as it is useless for commercial purposes the bees will have the benefit of it for wintering. Between the brood nest and the super is a piece of queen excluder zinc. This will be removed by first lifting the super off without disturbing the combs or bees; the queen will then have access to the frames when the super is again placed in its original position. The object of removing the excluder zinc is when cold weather sets in the bees will be able to cluster within easy reach of their food; whereas if the queen were confined in the body of the hive many would be starved or chilled in attempting to reach the stores in the super.

During the short days of winter the bees will doubtless take possession of the top storey; underneath will be the original brood nest, through which ample ventilation will be obtained if air space is provided at the entrance. The frames should be warmly covered up, so that there may be no escape of heat. This plan is quite opposite in principle to the large hives often recommended, but we have no doubt the bees will winter well. It has simplicity to recommend it, and will also save a great amount of labour in feeding the bees. As we have a couple of dozen colonies being wintered in doubled hives we shall at some future date be in a position to state how the plan has answered. Hives on which there are supers in some other form should have different treatment.

HIVES WITH SHALLOW FRAMES.

Hives having shallow frames as supers may be treated in the same manner as those having full sized frames. Owing to the fine weather experienced of late many colonies will have two or three crates of shallow frames or sections. If the former, it will make no material difference if all are left on the hive, but sections that will at some future date be offered to the public ought to be removed and the honey extracted, feeding it back to the bees in the usual way. The empty sections may then be placed on the top of the frames to be cleaned by the bees, which they will do in a short time at this season. They should be placed on the hive late in the evening, and removed in the morning before the bees are on the wing.—AN ENGLISH BEE-KEEPER.

TO CORRESPONDENTS

All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Leek Culture (O. F.).—The practice of sowing the seeds where the plants are to grow answers well for general purposes, the rows not being less than a foot apart, and the plants thinned in the early stages so as to leave them about 6 inches asunder. With the land in good heart, and kept clean of weeds, the Leeks will usually attain to a sufficiently large size without any further attention. Yours, however, appear small. They would be improved in growth by thinning, setting them out the distance named, leaving, of course, the strongest plants; then dress the bed with a mixture of three parts of mineral superphosphate, two parts of muriate of potash, and one part of nitrate of soda, crushing fine and mixing well. Sprinkle 3 to 4 ozs. of this mixture per square yard between the rows, not over the plants, when the ground is moist, or, if dry, precede and follow with a good watering. Apply two dressings in half quantity at intervals of a fortnight or three weeks. The plants will yet make considerable progress, a light mulching of short manure being given between the rows, and water or liquid manure supplied during periods of dry weather.

Duration of Raspberry Beds (*Idem*).—

The beds may last twenty years or more, everything depending on the soil, the manure applied, and the management. On an average they may require renewing every dozen years, the Raspberry being, like other bush fruits, better for a change of ground. This should be in an open situation, and well manured and trenched two spits deep. Where the soil is shallow mix manure with the bottom soil and leave it there, keeping the good mould on the top and manuring it also. The canes should be planted in the autumn in rows about 4 feet asunder for the low-growing sorts, and 6 feet for the strong-growing varieties, with the plants, preferably three together, at 3 and 4½ feet respectively in the rows. The canes should not be allowed to fruit the first season, but be cut down to about a foot from the ground, the object being to secure four to six strong canes for the following season's bearing. If your canes are healthy and produce a great deal of foliage with small fruit, it is evident they are grown much too closely, not receiving enough light and air to insure sturdy growths. Thin them by pulling up the superfluous canes, leaving four to six of the strongest to each stool, and these ought to be the distance before named apart, then you may expect good fruit, not otherwise, and have no occasion to make fresh beds.

Propagating Chrysanthemums for Outdoor Planting (Subscriber).—The plants are usually increased by division, the young growths springing from the base being detached in the autumn or early in the spring with a portion of root. These carefully detached, planted, and attended to for watering, soon become established and grow freely. In special cases suckers should be taken off, with as much of the underground part as convenient, preferably with some roots, and these dibbled in good rich light soil in a sheltered place, shading from powerful sun until growing. The cuttings may be inserted in late autumn or early in spring.

Diseased Tomato Leaves (H. W. P.).—Thousands of spores of the Tomato leaf fungus, *Cladosporium fulvum* syn. *lycopersici*, were present on the leaves. Dust the plants all over with one of the advertised fungicides containing sulphate of copper, and repeat occasionally as fresh growths are made. Admit air more or less constantly, and maintain as high and dry an atmosphere as you possibly can under the circumstances, and consistent with a free admission of air. It would be better if you could maintain a gentle warmth in the hot-water pipes constantly, thus allowing of a free circulation of air, and a drier and warmer condition of the atmosphere than would otherwise be the case.

Treatment of Cherry Tree in a Pot (W. C.).—The tree need not be repotted unless in a small size of pot, and requiring more root space. It should be top-dressed, the old soil being removed from over the roots, and that at the sides of the pot pricked out to the extent of about two-thirds the depth and one-third the width of the ball. This will allow of fresh compost round the roots, which should be made quite firm. It may consist of good fibrous loam, with a fourth of well-decayed manure and about a fifth of old mortar rubbish broken up small. The top-dressing must be applied at the end of September, or earlier if the leaves give indications of falling. In the case of repotting, it is desirable to do this early in the autumn than defer it until winter time. The pruning ought not to be done until the tree becomes leafless, then the side growths should be shortened to about an inch of their base, the spur being left intact, and the extension growth shortened to about 6 inches, or as necessary to secure a symmetrical tree. If much shortening be necessary some of it may be done at the time of top-dressing or repotting, especially when the growths are so crowded as to require thinning.

Tabernæmontana camassa (W. Edgar).—It was under this name that *Tabernæmontana cymosa flore-pleno* (fig. 28) was, and still may be, offered in some catalogues, the latter being correct. It was obtained



FIG. 28.—TABERNÆMONTANA CYMOSA FLORE-PLENO.

from a Belgian garden, and after being in cultivation for a short time it was found to be much superior to *T. coronaria flore-pleno* in every respect, and was, therefore, largely propagated. The freely borne flowers are very double, pure white, and exceedingly fragrant, and afford a pleasing contrast with the dark green leafage. It grows well in a stove or intermediate house with Gardenias or Stephanotis, and requires a compost of sound turfy loam and peat in about equal proportions. When growing supply water liberally, and syringe the foliage frequently to keep it clean.

Plums (W. S.).—The few fruits arrived in such a state that it was impossible to form any estimate of the variety worth recording. The best plan will be to send a dish of at least a dozen fruits with a sample of growth, packed so as to arrive in a perfectly sound and fresh state, to one of the meetings of the Royal Horticultural Society next year for examination by the Fruit Committee.

Rust on Chrysanthemum Leaves (Bob).—The leaves are infested by the Chrysanthemum leaf rust fungus, *Uredo Chrysanthemi*, which has got a good hold upon the plants. Sulphide of potassium, or liver of sulphur, half ounce to a gallon of water, may be used, or even sulphuret of lime, but the solution must be forced into the pustules either by forcible spraying on the under side of the leaves, or by the aid of a sponge or soft brush: care must be exercised. The powdered preparations of sulphate of copper are less objectionable but not so effective.

Tomatoes for Winter (S. J.).—The plants would not be improved by shaking them out of the soil when planting, as this would give a check without any ultimate gain. The better plan would be shifting into larger pots, say 7-inch, for planting in a month's time, keeping the ball as low down in the pots as possible, and giving a substantial compost of turfy loam, with about a 9-inch potful of steamed bonemeal and a similar quantity of soot to each barrowload. This will induce roots from the collar of the plants or the stem, and strengthen the plants accordingly. The sooner the plants, however, are planted, the better; so as to get them well established before winter, for unless you have fruit set and swelling there is not much chance of success with everything to do in dull weather. The plants cannot have too much light, nor can they be grown too sturdily. Make the soil firm, and do not use too much of it or too rich. They will grow fast enough, the difficulty is to get fruit set at the dull season, and keep it swelling.

Trouble with Peas (G. W.).—There is no wonder at your having had great trouble with your Peas. There was a fungus, but it is a saprophyte, and feeds absolutely on dead vegetable matter. The maggots present on the roots were apparently one cause of the mischief. They appear to be a species of *Anthomyia*, possibly *tuberosa*. The creature does not produce nodosities, but feeds on vegetable matter. The most serious trouble, however, arises from an attack by root-stem eelworm, *Tylenchus obtusus*, the animals being quite lively in the solution with which they were treated for examination. You say nothing about prevention, but we advise a dressing to the land forthwith of quicklime, not less than $\frac{1}{2}$ cwt. per rod, slaking and spreading whilst apparently dry and flourey, and in a day or two fork into the soil lightly, and then apply a dressing of kainit, $3\frac{1}{2}$ lbs. per rod, 5 cwt. per acre, and leave for the rains to wash in. Both the lime and the kainit are best applied in a dry time. The dressing then acts better on the vegetable matter in the soil and also on the eelworm.

Border for Figs (Tyro).—A border of 3 to 4 $\frac{1}{2}$ feet is ample for Figs that are to cover an ordinary width of trellis. It is necessary that it be well drained, a 4-inch drain being laid with proper fall and outlet to carry off superfluous water. Nine to twelve inches depth of drainage should be used, preferably chalk or brick and mortar rubbish, roughest at the bottom and finest at the top. The border should be not less than 18 inches, and need not exceed 24 inches in depth. Good loam ought to form the staple of the compost, using the top few inches of ameliorated soil, and if possible with the turf. If of a calcareous nature so much the better, and if inclined to be heavy rather than light it is preferable. If light, add clay marl to the extent of a fourth; if very heavy, add a fourth to a sixth of road scrapings. An addition of a sixth of old mortar rubbish freed of pieces of wood may be added whatever the nature of the soil may be, and a twentieth of steamed or crushed bones, the whole well incorporated, and the border made with the material moderately dry, so as to admit of its being well firmed. An allowance should be made of a few inches increased depth for setting. A 2 $\frac{1}{2}$ feet width of border will be sufficient for the first two or three years.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (O. K.). 1, *Lælia purpurata*, poor form; 2, *Miltonia spectabilis* Moreliana. (W. E.).—1, *Campanula latifolia*; 2, *Scabiosa ochroleuca*; 3, *Lythrum salicaria*; 4, *Lysimachia vulgaris*; 5, *Polygonum bistorta*; 6, *Astrantia minor*. (H. H.).—1, a fair variety of *Lælia elegans*; 2, *Miltonia spectabilis*. (H. W. C.).—1, *Rhyncospermum jasminoides*; 2, *Mimulus cardinalis*; 3, *Francoa ramosa*, commonly known as the Bridal Wreath plant; 4, *Sedum ibericum*; 5, *Gypsophila panicula*. (Cantab.).—1, *Helianthus multiflorus plenus*; 2, *Achillea ptarmica* fl. pl.; 3, a *Euphorbia*, species not determinable without flowers; 4, *Lilium chalcidonicum*; 5, *Campanula persicifolia alba plena*. (Orchidist.).—*Lælia elegans* Turneri. (W. T.).—*Olearia Haasti*; we have not yet determined the Grass.

TRADE CATALOGUES RECEIVED.

W. Bull, King's Road, Chelsea.—*Bulbs*.
W. Clibran & Son, Altrincham.—*Bulbs*.
M. de Corte, Lokeven, Belgium.—*Plants*.
S. Dobie & Son, Heathfield Gardens, Chester.—*Flowering Roots*.
Fisher, Son, & Sibray, Ltd., Handsworth, Sheffield.—*Bulbs*.
Vilmorin, Andrieux, et Cie., Paris.—*Bulbs*.
Webb & Sons, Wordsley, Stourbridge.—*Bulbs*.

COVENT GARDEN MARKET.—AUGUST 24TH.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve ...	0 0	to 0 0	Grapes, lb....	1 6	to 3 0
Cobs ...	0 0	0 0	Lemons, case ...	11 0	14 0
Filberts, 100 lbs. ...	0 0	0 0	St. Michael's Pines, each	2 6	5 0
Gooseberries, $\frac{1}{2}$ sieve ...	1 6	2 0	Strawberries ...	1 6	3 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0 0	to 0 0	Mustard and Cress, punnet	0 2	to 0 4
Beans, $\frac{1}{2}$ sieve ...	0 0	0 0	Onions, bushel ...	3 6	4 0
Beet, Red, doz. ...	1 0	0 0	Parsley, doz. bnchs...	2 0	3 0
Carrots, bunch ...	0 3	0 4	Parsnips, doz. ...	1 0	0 0
Cauliflowers, doz. ...	2 0	3 0	Potatoes, cwt. ...	2 0	4 0
Celery, bundle ...	1 0	0 0	Salsafy, bundle...	1 0	0 0
Coleworts, doz. bnchs.	2 0	4 0	Scorzonera, bundle ...	1 6	0 0
Cucumbers... ..	0 4	0 8	Seakale, basket... ..	1 6	1 0
Endive, doz. ...	1 3	1 6	Shallots, lb. ...	0 3	0 0
Herbs, bunch ...	0 3	0 0	Spinach, pad ...	0 0	0 0
Leeks, bunch ...	0 2	0 0	Sprouts, $\frac{1}{2}$ sieve ...	1 6	1 9
Lettuce, doz. ...	1 3	0 0	Tomatoes, lb. ...	0 4	0 9
Mu hrooms, lb....	0 6	>	Turnips, bunch...	0 3	0 4

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blooms ...	3 0	to 4 0	Marguerites, doz. bnchs.	1 6	to 2 6
Asparagus, Fern, bunch...	2 0	3 0	Mignonette, doz. bnchs. ...	1 6	3 0
Bouvardias, bunch ...	0 6	0 9	Myosotis, doz. bnchs. ...	1 0	2 0
Carnations, 12 blooms ...	1 0	3 0	Orchids, var., doz. blooms	1 6	9 0
" 12 bnchs. ...	4 0	8 0	Pelargoniums, doz. bnchs.	3 0	6 0
Eucharis, doz. ...	3 0	4 0	Polyanthus, doz. bnchs...	1 0	1 6
Gardenias, doz. ...	1 0	4 0	Pyrethrum, doz. bnchs. ...	1 0	1 3
Geranium, scarlet, doz.			Roses (indoor), doz....	0 6	1 6
bnchs. ...	0 0	6 0	" Red, doz....	0 3	0 6
Iris doz. bnchs. ...	4 0	6 0	" Tea, white, doz. ...	1 0	2 0
Lapageria (white) ...	1 6	2 0	" Yellow, doz. (Perles)	1 0	2 0
" (red) ...	1 0	1 3	" Safrano(English)doz.	1 0	2 0
Lilac (French), bunch ...	3 6	4 0	" Pink, doz. ...	1 6	3 0
Lilium longiflorum, 12 blms	3 0	4 0	" Moss, per bunch ...	0 9	1 0
Lily of the Valley, 12sprays	1 0	2 0	Smilax, bunch ...	1 6	2 0
Maidenhair Fern, doz.			Sweet Peas, doz. bnchs. ...	1 6	3 0
bnchs. ...	4 0	8 0			

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6 0	to 36 0	Heliotrope, doz. ...	4 0	to 6 0
Aspidistra, doz. ...	18 0	36 0	Lilium Harrisii, doz. ...	12 0	18 0
Aspidistra, specimen ...	5 0	10 6	Lobelia, doz. ...	3 0	4 0
Coleus, doz. ...	3 0	4 0	Lycopodiums, doz. ...	3 0	4 0
Dracæna, var., doz....	12 0	30 0	Marguerite Daisy, doz. ...	6 0	9 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	4 0	6 0
Erica various, doz. ...	12 0	24 0	Musk, doz. ...	2 0	6 0
Euonymus, var., doz. ...	6 0	18 0	Myrtles, doz. ...	6 0	9 0
Evergreens, var., doz. ...	4 0	18 0	Palms, in var., each ...	1 0	15 0
Ferns, var., doz. ...	4 0	18 0	" specimens ...	21 0	63 0
" small, 100 ...	4 0	8 0	Pelargoniums, scarlet, doz.	4 0	6 0
Ficus elastica, each ...	1 0	7 0	" " " doz. ...	8 0	10 0
Foliage plants, var., each	1 0	5 0	Rhodanthe, doz. ...	4 0	6 0
Fuchsia ...	5 0	8 0			



HARVEST, 1898.

It does not seem a twelvemonth since we wrote of harvest work, its worries, anxieties, and cares, and, lo! it is upon us once again. The fields are already whitening, even in the far north, and every available hand is hard at work. We have been much struck just now by a new example, testifying to the uncertainty of everything mundane.

Owing to continued fine weather, the crops stood up, and were very even and regular—just in the very form for manipulation by a self-binder. Consequently, those who needed a new machine to a man invested in a self-binder.

The weather broke, down came the rain— $1\frac{3}{4}$ inch in an afternoon—strong winds prevailed, heavy crops were laid, medium crops storm-broken, and the happy (?) possessor of a new-fangled machine looked very much out of love with himself and his purchase.

Personally, we have never been much in love with the self-binder, and now we are chuckling with satisfaction when we see our nice new reaper (old style) doing its work so well, while our neighbour is worrying and vexing himself, and using bad words over the bungle of his new and expensive treasure.

It is claimed for string-binders that they will cut and tie laid crops better than other machines will do the cutting alone, the advantage lying in the fact that the knife is always kept clear. This is quite true, and if the crop be all laid one way, so that it can be met or throated, the cutting and binding may be well performed; but should the crop be twisted about in various directions, almost as if it were stooked, the cutting may be performed, as also the tying, but a difficulty may afterwards be found in recognising the ear end of the sheaf, and the problems set the stoker, in his attempts to set them right end up, more than come within the powers of mortal man.

There is no doubt that the expense of ingathering the present harvest will be heavy, and far greater than was expected a week or two ago; but, given fair average weather for the work, what will be the result in saleable produce? Long columns of statistics in the form of crop reports have been recently published, and although we think that individual reports are often far from correct, there can be no question that as a whole they give a very fair idea of what the results are likely to be.

Wheat, as we expected, is said to be the crop of the year, and better even than 1896, which had been the best crop of the decade. As the crop was nearly approaching maturity before the recent rains set in little damage can have been done by them, and only fine weather is needed to make sure of a fine crop. Barley, although nothing approaching a record, is rather over an average crop, and although it is relatively not so heavy and long in the straw as Wheat it is now quite as much laid, and far more exposed to the risk of injury from further wet weather. Laid Barley takes so much longer a time to dry, that a heavy dew will stain it quite as much as rain will do a standing crop. Then, again, laid Barley always ripens more or less prematurely; so, taking all these points into account, we think that a modification must be made in the favourable Barley report, and if we say that it is an average in quantity as well as quality we may not be far off the mark.

The Oat crop works out as being about an average, which to us is somewhat surprising, our own observation, assisted by that of friends in other districts, having indicated a considerable shortness of straw, which in the case of Oats may be taken also to denote a shortage in the quantity of grain.

This year's cereal crops then, on the testimony of a representative body of growers, may be taken to be, on the whole, satisfactory; and if the prices which we were being promised a few months ago could be realised, there would seem every prospect of a prosperous year for the corn grower; but, alas! the "promise of May" is hardly likely to be fulfilled. Wheat then at 50s. per quarter, has sunk now to little more than 30s., and we hear corn merchants prophesying a further reduction to 20s. At any rate, there is little likelihood of this season's crop making more than 30s.

As to the price of Barley, we hear widely divergent opinions, first that the continental crops are very good and of fine quality, and again that they are poor and not likely to seriously affect the supplies in our markets. Of course we all know that upon the foreign supplies of Barley the price of that cereal greatly depends, and we fear that there is too much truth in the first report, and that we must be prepared to contend with very strong rivals in our efforts to woo the attention of the maltster and brewer.

The Oat market has held its own well, and good old Oats are both scarce and dear; this should help new Oats to command a fair price when they come to hand. The crop also is not likely to glut the market, so there should be a prospect for Oats to make a fair price throughout the season.

WORK ON THE HOME FARM.

We have begun harvest with a piece of early sown Barley. It was hardly as ripe as we should have liked, but we dare not let it stand longer, as a neighbour has lost 6 or 8 bushels per acre of the same variety (Standwell) by necking. This kind seems liable to neck off with very little wind, and must be cut much greener than the Chevalier varieties.

We shall make a fair start in two or three days, and are anxious to get on as soon as the crops are ready, the weather being so fine. Meantime we are again running over the Turnips with both horse and hand hoes. The heavier land has not had too much rain, and the cracks soon open again; to prevent this and help the soil to retain its moisture the horse hoe must be kept at work and the surface as loose and fine as possible.

We are sowing Mustard where second early Potatoes have been dug. A good harrowing is all that is needed before sowing the seed. The latter should be sown broadcast and lightly harrowed in. It is a mistake to be grudging in the matter of seed; 20 lbs. per acre is not at all too much, and we know farmers who sow 28.

Lambs require careful attention now; they must have change of pasture as soon as they require it, the chief danger lying in the difficulty of ascertaining this point early enough. A healthy lamb shows its well-being in the bright appearance of the wool, as well as in its full-bodied, thrifty appearance; but when the lamb loses its body, becomes tucked up, and the wool dark and dull-looking, it is time to give a change of food as well as an alterative medicine.

Our opinion is that a small quantity of sulphur mixed amongst the hand food is a great safeguard against lamb complaints, which almost always arise from an impure state of the blood.

The pastures will now be more or less flushed, and lambs may show a tendency to scour. The best remedy for scour is castor oil, which, whilst clearing the stomach and bowels, is very soothing to any irritated surface; but oil to be most successful must be administered before the animal has become seriously ill, for it will not cure inflammation of the bowels.

Shepherding during the busy time of harvest is sometimes hurried over, but this is very foolish policy, the shepherd requiring more time than usual at this period if the work is to be thoroughly performed.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

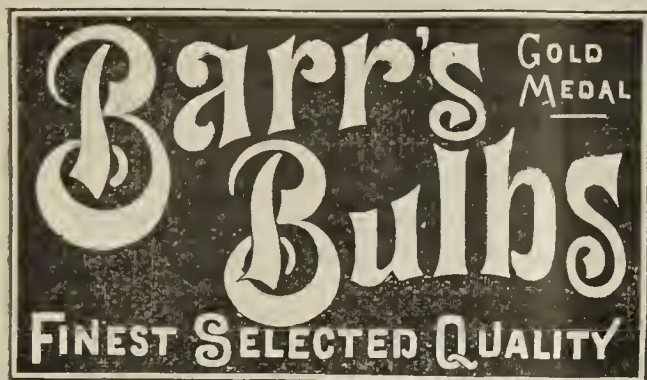
Lat. $51^{\circ} 32' 40''$ N.; Long. $0^{\circ} 8' 0''$ W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
1898. August.	Barometer at 32°, and Sea Level	Hygrometer		Direc- tion of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Tempera- ture.			
		Dry.	Wet.			Max.	Min.	In Sun	On Grass		
		inches	deg.	deg.		deg.	deg.	deg.	deg.	inches.	
Sunday	14	30.025	69.6	65.1	N.W.	65.2	85.0	61.8	119.2	57.4	—
Monday	15	30.017	75.1	66.1	N.E.	66.1	87.5	65.1	124.9	60.8	0.198
Tuesday	16	29.945	70.8	65.9	S.E.	66.9	81.9	60.8	118.2	58.9	—
Wednesday	17	30.129	62.9	59.9	N.	66.6	79.8	60.0	116.9	58.3	—
Thursday	18	30.145	68.4	61.2	E.	66.0	78.2	55.1	118.3	52.0	0.059
Friday	19	30.066	68.9	65.3	N.E.	65.9	81.7	59.1	117.9	57.0	—
Saturday	20	30.158	64.9	61.2	W.	65.7	81.0	57.8	121.3	53.8	—
		30.069	68.7	63.5		66.1	82.2	60.0	119.5	56.9	0.257

REMARKS.

- 14th.—Sunny and hot throughout, but not very bright.
 15th.—Cloudy early; bright day, with the highest temperature of the year up to date; distant thunder at night.
 16th.—Thunderstorm with heavy rain between 2.30 and 4 A.M., thunder and large spots of rain between 10 and 11 A.M., but generally sunny day.
 17th.—Overcast morning; bright afternoon and evening.
 18th.—Cloudy early; bright sun from 8 A.M.; distant lightning at night, and heavy rain at 9.30 P.M.
 19th.—Overcast till 11 A.M.; generally sunny after.
 20th.—Bright and warm throughout.

A fine hot week, especially noticeable as following at so short an interval the very cold days at the beginning of the month. No severe thunderstorms.—G. J. SYMONS.



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Journal of Horticulture.

THURSDAY, SEPTEMBER 1, 1898.

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FASHION.

WE (of what, I suppose, I must now call the inferior sex) are oftentimes very critical of the changes of fashion in which the fair sex indulge, and, in truth, when we turn over the pages of "Punch" of the last twenty years, it is not wonderful that we are amazed and amused at the multifarious changes we see, and made without any apparent rhyme or reason. We all remember the days of crinoline and pork-pie hats, and we fancy that we have not indulged in such vagaries of fashion that they have delighted in. And yet I think that though this may be true of the male attire, it is not true of many things with which the male sex has to do, and gardening is one of them.

With an experience of sixty years there has been much to record in this way; one has seen craze after craze in flowers bud forth, flourish, and then suddenly die away. I do not merely speak of the styles of gardening, although we have witnessed revolutions in that respect; we have seen the system of bedding-out developing to an absurd extent, until the trouble became too great, and the question was seriously asked, Was it worth it all? Then followed a much more rational system, which we may call the hardy herbaceous style, which has now reached a high state of development. The purveyors of these plants have risen up in all directions, and all parts of the temperate zone have been ransacked for the purpose of supplying that desire after novelty which forms so great an incentive to success.

My object is rather to look at the rise and decline of taste or fashion to a particular race of plants, and I can hardly do better than take that of the Geranium or Pelargonium, which has already been referred to. These names are sometimes used indiscriminately, thereby causing great confusion. It is much better to regard the Zonal section as Geraniums and the greenhouse section as Pelargoniums. The Zonal is so called because of the dark zone, more or less pronounced, which appears in the leaf. At the period to which I refer, the only evidences of this section were large plants of rampant growth which used to be generally planted

in the back of the greenhouse, and bearing large trusses of brilliant scarlet flowers. But there came a time when what is called the Tom Thumb section was produced; but I do not think that I ever knew how or from where this was obtained. It gained immense popularity, and as the bedding-out system developed, the plants were in great request.

Then came another change, for Mr. Grieve of Bury St. Edmunds obtained the brilliant leaf-coloured plant Mrs. Pollock, and, oh! what a sensation this made. Everyone must needs have it, and no garden on the bedding-out system was considered correct without one or two beds of it. The flowers were insignificant, but the leaves were undoubtedly very brilliant in colour. Messrs. F. & H. Smith of Dulwich went largely into them, brought out many pretty plants, but none of them ever attained the popularity of Mrs. Pollock. They were sold at high prices, a guinea and a half being often given for a small plant. With them came also what are called the bicolor or bronze Geraniums. To these Mr. Wills and Messrs. John Laing and Sons contributed some fine varieties, while another variation was seen in what are called the silver-edged classes; here the zone was not affected, but the edge of the leaf was white. These all had their day, and there are perhaps some few private gardens where representatives of them may still be found, but the time and money necessary for them have been grudged, and however beautiful they may be, they are not in fashion.

An equally great change has taken place in the other section, greenhouse Pelargoniums. There were two divisions of this class—the large Show varieties; and the smaller, more delicate, and more difficult ones, known as Fancy varieties. These were cultivated with great success by Mr. Charles Turner of Slough, and Mr. Bailey of Shardeloes. Two amateurs set themselves to work on these, and none of us who lived in those days is likely to forget the *furor* that they created. These were Mr. Garth, a clergyman near Farnham, and Mr. Foster of Clewer Manor, and their efforts were most successful. The grand plants exhibited by the gentlemen named will not readily be forgotten. Plants measuring 4 feet through, with hundreds of trusses, formed a most attractive feature at our metropolitan exhibitions. Such are now things of the past; we never see them, the fashion has changed, and although very beautiful, and delightfully brilliant and soft in their colours, they have been made to give way to other and newer things. Mr. Turner of Slough used to bring out about a dozen every year, but it became very difficult to say wherein lay the superiority. I know we used laughingly to say that if we took the labels out of the pots the exhibitors would be unable to tell which they were.

At the same time many growers thought much might be done with flowers of the Zonal section, and set themselves to work to increase their size and beauty. Amongst the most conspicuous of these were the late Dr. Denny, who was a perfect enthusiast about them, Messrs. Pearson & Sons of Chilwell, Messrs. Cannell & Sons of Swanley, and Monsieur Lemoine of Nancy. Many will recollect the fine plants of Zonals that used to be exhibited at our metropolitan shows, and it says a good deal for one of those raisers whom I have named, that most of the plants by whomsoever exhibited were of the Chilwell strain. As time went on the same thing happened with them as with the Show varieties. They attained such a degree of perfection that the new varieties of each year did not excel those sent out previously in any appreciable degree, and so the ardour cooled, and the fashion changed. Occasionally at provincial exhibitions good plants may be seen, although the overgrown monsters of former years have vanished. I do not think the knowledge of their culture has in the least degree decreased, and I have had this year beautiful plants in my own garden in 16-inch pots with sixty trusses of bloom on them.

One of the most remarkable developments was the Ivy-leaved section. The flowers were originally very small, but by the skill of the hybridiser they were so increased in size that splendid trusses of very double flowers covered the plant; they became great favourites, and owing to the persistency of their blooms were much in favour for

bedding purposes and also for room decoration. The varieties are not numerous, but they are of many shades of colour, and are in favour in many of our seaside resorts by those visitors who throng them in the summer months. There is yet another section which has somehow or other developed from the Show Pelargonium with semi-double fringed and crimped flowers. These are known as decorative varieties, and they are useful as summer flowering plants in the greenhouse.

Now all this that I have written about the Geranium and Pelargonium has its bearing upon the subject of fashion. Fashion does change, and as far as flowers are concerned I think it well that it is so. It forms an incentive for growers to introduce new forms, while at the same time it is surely not well when a flower has reached what seems to be perfection to continue to bring out new varieties which differ in no degree from those already grown. One sometimes wonders on what flower the amateur hybridiser will next try his hand; he has troubled the minds of Orchid growers by his successful essays amongst them, but they are not everybody's flower, and while most of those flowers which come within reach of us all have in turn yielded to these successful operations, it would almost seem that, like Alexander, he had no more worlds to conquer. We cannot, however, foretell, and let us hope that fashion may lead the way into some hitherto-unexplored regions.—D., Deal.

HARDY FLOWERS IN AUGUST.

Too swiftly pass the sweet flowers of spring, and the bright blossoms of the midsummer time. Too soon comes autumn with its more brilliant garden flowers, which in turn give place to the sober tints of the latest of the year. August is speeding to its close, and we look upon its garden treasures with wistful eyes, feeling that when they have gone, with them will have passed away the golden time of the flowers. Let us look around and see what call for notice among the perennial hardy flowers when other gardens are perforce filled with bedding or other half-hardy plants.

Graceful ever when in bloom is the exquisite *Gypsophila paniculata*, whose mass of delicate lace-like flowers tosses gently in the wind which comes through and over the garden hedge. Well does a good plant look near a background of Michaelmas Daisies not yet in flower, but whose dark-hued foliage enhances the white of the lace-like *Gypsophila*. Poor plants of this are often seen; dull in colour and dense in habit, they want the grace of the better plants seen here and there in gardens of the time.

Although we have long had cause to disbelieve the poetical fable that the Sunflower turns its face to the sun, we cannot but think of the verses to which this belief has given rise as we look upon the Sunflowers now in bloom. *Helianthus rigidus* is usually pleasing, but its running habit makes it obnoxious to many. Even the beautiful *Helianthus* Miss Mellish increases too quickly, although it seems ungrateful to so fine a flower to say anything about its demerits. Very fine is the true plant with its showy semi-double flowers. There are unfortunately other Sunflowers sold for it, and only those who possess the true stock, or see it in bloom, can realise its brilliant colour and form.

Honoured indeed beyond his merits was the King of Illyricum, whose name of *Gentius* has been kept evergreen by its association with the *Gentian*. Fine are the flowers of the greater number of the species, and although none are finer than the favourite *G. acaulis*, we prize those which bloom in the later months of the year. We cannot but admire the fine flowers of the dwarf plant generally known as *G. septemfida cordifolia*, or the taller growing *G. asclepiadea*. Less fine than they is *G. linearis*, which grows only about 6 inches high here, but its neat erect habit, fresh green leaves, and long, narrow, semi-closed flowers, make it pleasing. A North American species, it is hardy in my garden, and on the lower terrace of a rockery thrives with a fair exposure to the sun, a good supply of water, and a soil of sandy peat.

Going through the garden the other day, I observed that a new plant to me had just come into flower. This is *Medicago echinus*, not a showy or particularly pleasing plant when in bloom, and more interesting, perhaps, because of the blood-like markings on its trifoliate leaves than for its yellow flowers in clusters. The latter are very small and pea-shaped. For *Medicago echinus* I have been indebted to Mr. A. Black of Carton Gardens, where he has charge of a large number of hardy flowers, in which he takes much

interest. This plant comes from the Mediterranean region, but is, I am led to believe, hardy here.

The Violetta section of the popular *Violas* is a favourite one with me, although I have not yet seen a miniature *Viola* to supplant in my favour *Violetta* itself. A new one from Dr. Stuart, named King of the Blues, is, however, a desirable acquisition, and its flowers have pleased me much with their dark blue rayless colouring and their bright yellow eye. Since the rain came the *Violas* have assumed a happier look, and such flowers as A. J. Rowberry, Florizel, Speckles, Queen of the Whites, and Bullion have been especially good.

On the rockery *Olearia Haasti* is unusually fine this season. The dry weather seems to have been congenial to this Daisy Bush, and it is now covered with its white flowers, and shows little of its shining green leaves. In former years it has had to take second place in my estimation, as well as in time of flowering, when compared with *O. stellulata*, but this year one is more inclined to waver in one's allegiance. It is thus, perhaps, as well that the two are not in bloom at the same time, so that we can still favour both.

Soon we shall see the first of the Meadow Saffrons and autumn Crocuses. As yet none are above the surface, but I am in almost daily expectation of seeing them pierce the soil. We have still Lilies, and until these and the *Gladioli* pass away we need not weary for the *Colchicums* and *Crocuses* to come, and by way of a change the beautiful—nay, exquisite—little *Leucoium autumnale* has come to tarry with us awhile. Japan *Anemones* have appeared with their snow white, pink, or crimson blooms, with yellow central boss; *Phloxes* are brilliant, if less fine than before; *Anthemises* give us white or yellow Daisy flowers; *Hypericums* are covered with paly-gold or deeper hued flowers; the purple-brown heads of *Allium sphærocephalum* rise nearly 3 feet high; and the curious little *A. glaucum* grows in the rock garden, showing but little beside some of its neighbours. *Platycodons* are very beautiful indeed, and dwarf *Campanulas* show yet a good deal of bloom. With annuals and half-hardy flowers the perennials named, as well as a number of others yet in bloom, show that the fascination of the flowers yet remains, and the promise of still later ones reminds us that it will be long ere we are left flowerless and forlorn.—S. ARNOTT.

TOMATOES IN THE SOUTH OF FRANCE.

It is well known to most of us what large quantities of Tomatoes are yearly grown in the South of France, so perhaps a note or two from a resident in the producing district will be acceptable. The winter culture is by far the more important, as with this the money is made, whereas the summer crop is unremunerative, the present price being as low as a halfpenny the pound. The labourers feed largely on Tomatoes. Their dinner in the evening very often consists exclusively of sliced Tomatoes in olive oil, with vinegar, pepper, and salt to taste, eating, of course, a good piece of bread.

For winter the plants are grown in cold frames and light glass houses, but mostly the former. This winter the growers lost heavily by a disease that destroyed hundreds of plants. During the early months of the year we had some rainy days immediately followed by strong sunshine, which made the temperature in the frames very warm and moist, and so those who did not open wide their sashes, and thought they could push on their plants for early prices under these conditions, lost many frames of good plants. The summer crop also suffered badly from another malady caused again by humidity. In many cases the first planting had to be thrown out entirely.

As to varieties, the difference between ours and the French here is very interesting. They grow almost exclusively one variety, a dwarf early sort, whose fruit is very irregular both in form and size, with a poor flavour. The public do not appreciate the fine taste of our varieties, and prefer their own. Home varieties would not do in the frames here, as they are too vigorous and not early enough, although they are more productive. Outside in summer English varieties do exceedingly well, but are not favourites, as they need staking and tying, while the French ones require little or no attention in that line. The variety Duke of York, with its fine large fruit, makes a good comparison with the Rouge Grosse Hâtive, the variety here, each, of course, having its advantages.

I never see gardeners who write of good varieties refer to a variety we had in Scotland called Austin's Eclipse; but I can strongly recommend it. Its productiveness is quite phenomenal, carrying occasionally as many as twenty to twenty-four good sized fruit, round, regular, and well coloured. The flavour is fine, and it crops early. I am sorry to hear Tomato-growing in some districts is being overdone at home, so with "women gardeners," and what not, I do not know what I shall do when I return. Like "A. D.," however, I do not think there is any reason to fear an invasion by the women—at any rate, not until their ideas undergo a very considerable change.—J. H. S.



NATIONAL CHRYSANTHEMUM SOCIETY.

THE Executive Committee of this Society held the first meeting of the season at its new quarters, Carr's Restaurant, Strand, W.C., on Monday evening last; Mr. T. W. Sanders presided, there being a fairly representative gathering of members. After the usual preliminaries had been disposed of, the Secretary reported on the annual outing, which was a most successful one, and he was unanimously awarded a vote of thanks for the way in which all the details had been carried out. Mr. H. A. Needs was elected to fill a vacancy on the Executive Committee, caused by the retirement of Mr. Daniels, and a dinner sub-committee was elected to make arrangements and report as to the annual dinner.

Referring to the issue of a supplemental catalogue, it was resolved that the same be deferred until after the close of the ensuing Chrysanthemum season.

The Foreign Secretary drew attention to the formation of National Chrysanthemum Societies in Italy and in Switzerland, and to the desire expressed by the promoters of the latter that English seedling raisers should exhibit some of their novelties at the show in Geneva next November.

CHRYSANTHEMUM NOTES.

MOST of the countries where Chrysanthemums are known and grown to any extent have now their national societies, although perhaps of all the Belgian one, founded some years ago, has been least heard of, if it still exists. Italy followed suit early this year, and its new journal, of which No. 1 is just to hand, promises to be a publication of some interest, for it is well printed, and got up in very much better style than the official organ of its predecessor, the French N.C.S. With such men as Mr. Briscoe Ironside, Dr. Baragiola, Messrs. Longhi, Radaelli, Scalarandis, and a fair sprinkling of well-known French seedling raisers, the first annual exhibition of this Italian Society, which is to be held at Milan next November, ought to improve very materially the financial and numerical status of the Society, besides giving an impetus to the culture of the flower, which seems already to have acquired some renown in the northern portion of King Humbert's dominion.

Passing to Belgium we find Mons. O. de Meulenaere, a well-known amateur grower and exhibitor at the Ghent Shows, is still pursuing his studies in the classifying and cataloguing of the novelties. His most recent work is just to hand, and is entitled a third supplement to the descriptive list of Chrysanthemums which was published in 1890, and is thus brought close up to date, the new supplement comprising all the novelties for the years 1896-1898, from all sources. In the new list the compiler adheres to his previous method of cataloguing the names under the leading word of the name, so that research is facilitated, and the reader is not left to wonder whether the variety he is looking for bears the prefix of Mr., Mrs., Miss, Monsieur, Madame, or Mlle.; but goes straight to the letter containing the surname.

An interesting feature of these Continental Chrysanthemum societies is their literary activity. All of them publish at various intervals a journal or bulletin, which enables members living at a distance to keep in touch with the society's work. Thus the French N.C.S. has its journal "Le Chrysanthème," of which the seventeenth number has just been published. The Northern French Chrysanthemum Society has for its official journal the "Nord Horticole," and the Paris Chrysanthemum Committee its journal, of which No. 6 is just out. In this we find preliminary instructions for the Floral Committee, the rules and schedule for the next Paris Show, which takes place on the 9th to the 14th November, in the gardens of the Tuileries, provision being made for ninety-four classes. The literary portion comprises an article by the Chairman of the Committee, Mons. Lemaire, on early Chrysanthemums, which latterly seem to be evoking something more in the way of attention than they have hitherto enjoyed. Mons. Oudot, who knows how to grow and show big blooms, judging from those we saw in 1896, contributes a paper on that subject, while another paper gives the record of a visit to the collection of Mons. Molin at Lyons.

The Swiss appear to be determined to keep pace with the times, and they, too, have just organised a N.C.S. with its headquarters at Geneva. The scope of this Society is somewhat similar to the French National Society, and its work is briefly set forth in the second rule,

which says that it intends to organise Chrysanthemum shows, to award medals and subsidies, to grant certificates of merit to the best novelties, to arrange conferences, to give advice to other horticultural societies desirous of holding shows of the same flower, to supply information on various points to its members, and to assist amateurs in making appropriate selections of varieties to grow. In January or February a journal will be issued containing the annual report and balance-sheet, a catalogue of the best varieties exhibited, and various interesting matter relating to questions of culture.—C. H. PAYNE.

REGAL PELARGONIUMS.

In the list of showy greenhouse plants there are few to equal the Show and Regal Pelargoniums, a popular market plant, and a favourite in most private places. Not the least of their merit is the time the flowers last in water, for there never was a greater mistake than the idea that these are short-lived when cut. The length of time they keep up a display in the houses is remarkable, and it is no uncommon thing to have them in bloom for four months on end. They are equally showy as the tuberous Begonia, and as easily grown, their one fault being the liability of green fly attacks.

But these since the advent of the improved methods of fumigation now in vogue need not be feared in the least, either of the better known makes of fumigating material being perfectly safe to use, and equally satisfactory as regards the insect. The present being the propagating season, seems a good time to briefly refer to their culture. The old plants ere this will have been placed outside in the full sun, and though not an advocate for severe drying off, the plants must have a greatly lessened supply of moisture after they steady down in growth, so to speak.

If placed out by the end of July the growth will by now have hardened considerably, and the plants are fit for cutting down. Use a keen knife, and cut back to where the growth is sound and ripe; no greater error can be made than to take only the green points of the shoots. Weak shoots this season will push weakly again, and no amount of care will make them satisfactory. Amateur growers have sometimes the idea that by taking only the extreme points larger plants the next season are formed. This is wrong. They may cut back the recently formed growth with as little compunction as they would that of a Vine, and plenty of good shoots will be formed; in fact in all probability they will require somewhat severe thinning.

The wood taken from healthy plants consists of semi-ripened shoots, with the old flower spike in the centre, and this being removed the cutting is ready for insertion. Place three or four cuttings, according to size, in a 4-inch pot, give sandy light compost, and place them in the full sun out of doors. The pots should be stood on a bed of coal ashes, over which a little soot and lime has been scattered, and kept moist until roots are formed.

The old plants meanwhile must be kept perfectly dry, or at least not watered from the can. If very heavy rains occur after cutting back the plants should be placed in a frame for protection, but light showers are beneficial. In thinning the shoots have regard to the shape of the plant, and leave as many as possible without any fear of crowding. Keep in mind, too, that some of the stronger ones may require stopping, and this, of course, leads to the production of three or more shoots instead of one. The variety, too, must be considered; some of the stronger growers naturally push less shoots than the weaker ones, such, for instance, as Dorothy, Madame Thibaut, and its beautiful white sport Princess Alexandra making few shoots, but these very strong; while the weaker growers, as Dr. Masters, Prince of Teck, and others of this habit make a lot of young shoots, that individually take up little room. A few there are which make superbly shaped plants, almost naturally being of a medium branching habit, two that occur to mind being Princess May, a lovely salmon pink, and the deeper coloured H. M. Stanley. A little judgment then at this stage is well repaid by the improved appearance of the plants later.

By the time the cuttings are rooted the old plants will be ready for repotting. The former will be placed singly in 3-inch pots, while the old plants must be shaken clear of the compost, a few of the stronger roots cut back, and repotted in the same size as before, or a size smaller. In both cases use the potting stick freely, as a firm soil means hard and slow growth at first, and this is much more satisfactory than having it soft and sappy. If the weather prove fine after repotting, the plants may remain outside in the full sun; but a light frame with a south aspect is usually better for them, removing the lights during fine weather, and covering only from heavy rains. Watering at the root needs care now, very little being required until the roots are getting well out into the new compost.

A light, airy, and comparatively dry house suits the plants best during the winter, the heads being kept within a few inches of the roof glass. Any growths taking an undue lead may be pinched to make a shapely well-balanced plant. Fumigation must be allowed as

soon as there is the least sign of green fly, and any decaying foliage carefully removed, maintaining a sweet atmosphere in the house by free ventilation on every possible occasion. In early spring the plants will have their final shift, allowing sufficient room, as it is not wise to feed the plants too liberally. Good loam, leaf mould, and dried cow manure broken in lumps, is a good compost, and if this is firmly placed little feeding will be necessary until the buds are showing, when frequent weak doses of guano and soot water alternately will insure a beautiful and long-continued display.—H. R. RICHARDS.

NOTES FROM IRELAND.

PAST blessings are apt to fade into the dim perspective, hence, perhaps, memory is somewhat faulty in presenting to one's mind among the years that have fled a more bountiful season than the present. This, it must be added, is more from a farming than a gardening point of view, but conjointly it applies to the County of Dublin, and happily the observation of others confirms that opinion, as well as deriving it from a considerably extended area. From the West alone comes a tale of woe, and that anent the Potato, which plays, alas! a far more prominent part in that impoverished district.

Fruit crops however, if of less general importance, claim prior attention, but local circumstances so considerably alter cases, that mere casual observation scarcely warrants a decided assumption; yet I venture to think that this part of the programme, if not overflowing, is fairly well filled, justifying the conclusion of an all-round average. A late spring retarded blossom, and although night temperatures descended to danger point, it was not until a luxuriant leafage was put forth that frosty nights came, and these in what was practically early summer. Bad effects followed inland, but these were partial, and only in some isolated instances were the tender tops of the Potato cut to the ground. Our growers for market rejoiced in a bountiful Strawberry crop, prices for selected fruit being never less than 6d. per pound. Royal Sovereign is now coming largely to the front; for all-round purposes it is unexcelled, and as a forcing variety it leads the way.

Apples and Pears are more conspicuous by quantity than quality; but outside of private gardens little attention is paid to them. There never appears sufficient of these fruits placed upon the Dublin markets to create a demand by the working classes, although a certain amount of "rubbish" is hawked about the streets for a limited season. Seldom are good sound cooking Apples to be had for less than 1s. per dozen, so the Apple dumpling is missing from the humbler menu. As elsewhere, Tomatoes are esteemed and regarded as a paying crop; with these and with Cucumbers the eelworm has given much trouble to growers this season.

The Royal Dublin Society's unique horse show, taking place as these notes are penned, annually makes the city *en fête*; that and the social functions contingent upon it create a demand for choice fruit. Peaches in the market have returned 14s. per dozen, and Nectarines only a few pence less. Grapes at any time seldom give satisfactory returns. In the matter of Peach growing, rather extensively practised at some few private places in the vicinity, those who cater for the market have little to fear from external competition. Now and again imported consignments are to hand, but it is easy to detect the "travellers," which, if they do not suffer by road and rail, are, like other travellers, handicapped by the sea trip. Plums on the walls, and even the precarious Apricots, are bearing well; Green Gages and Victorias being particularly abundant. The latter is most reliable, and worthy of being more extensively grown than obtains here.

A copious rainfall until July came in filled the country with hay, and owing to the lateness of the season few meadows were cut till then. But it was worth waiting for; July being simply glorious—a dry month without drought—and the heavy grass crops were converted into the sweetest of fodder at a minimum of expense and labour. The last extension of the electric tram service in Dublin having done away with a considerable amount of horse power, good prices for hay are a vanishing quantity. Would that the powers that be knew what blessings they might receive and confer by quartering a few cavalry regiments in the Irish metropolis. With August came broken weather, and much anxiety prevails respecting the abundant harvest ready for the reaper. Heavy crops of Wheat, Oats, and Barley have been, in the more exposed situations, laid flat. Some very fine breadths of Wheat have, however, in sheltered places, been "stocked" in the prime condition.

Topical talk from rural districts tends to show how important the Potato crop is to Ireland, far more anxiety appearing to pertain to that than to the harvest. Up to the present this crop around Dublin could scarcely be more promising—a promise, one may say, all but fulfilled. However, the critical time is now with us owing to spells of dull, humid weather lately prevailing. Yet it is gratifying to note that early in July all sorts and conditions of growers avail themselves of

the sprayer as a preventive, acre after acre of luxuriant haulm glistening in its blue, filmy coating of copper. The best example of machine used for distributing the antidote seen in active use was that in which the engine was carted through the drills, trailing several distributors, which forced the spray up through the plants, a couple of nozzles above working in opposition, thus thoroughly wetting the foliage on both sides. The question arises whether universal and persistent use of the sprayer might not eventually free Ireland so long held by the enemy.—K., Dublin.



DISA CLIO.

THE number of hybrid Disas placed before the meetings of the Royal Horticultural Society is, when compared with Cattleyas, Cypripediums, and others, very small, and when one of good quality is staged the Orchid Committee is not slow in showing its appreciation. At the meeting held on Tuesday, August 23rd, Messrs. J Veitch & Sons, Chelsea, sent Disa Clio (fig. 29), which has resulted from a cross between *D. grandiflora* and *D. Veitchi*, the latter a hybrid from a cross between *D. grandiflora* and *D. racemosa*, and was, as is well known, the first hybrid of the genus. To the fact of *D. Veitchi* being a hybrid must be ascribed the diversity of colour in *D. Clio*, this ranging from the softest salmon rose to brilliant scarlet. As may be seen in the woodcut, the flowers are large and are freely produced. An award of merit was recommended by the Orchid Committee, an honour of which we omitted to make note in our report of the exhibition on the above date.

CYPRIPEDIUM CURTISI.

I FORWARD a bloom of *Cypripedium Curtisi*. It is the largest form I have seen, and the other two on the plant are equal in size. It has been open several weeks, and is beginning to fade now.—G. W. CUMMINS.

[The specimen you sent was an excellent one, though we have before seen one or two equal to it for size. The best portions of your variety are the petals, which are splendid, and superior to any we have previously noted.]

LÆLIA ELEGANS.

SEVERAL of the many beautiful plants that come within the above designation are thoroughly well known, but others, by reason of their scarcity, are seldom seen. To see all of the hybrids and varieties that are worth growing it would be necessary to make several journeys to The Woodlands, Streatham, where Mr. R. H. Measures has what is commonly acknowledged to be the finest collection in the world. There are to be found hundreds of plants in various stages and of remarkably diversified characters of growth, some having long almost round pseudo-bulbs, while others are short and flat, with still more carrying leafage entirely distinct from the recognised type. Hundreds of the plants are imported in addition to those that have been raised at Streatham, and some of which are superb, but all are alike in excellence of health and condition. To some of the latter it is purposed to draw attention in the subsequent paragraphs.

Though these notes have been headed *Lælia elegans* as being the more popular name, it is not now accepted as correct, that of *Lælio-Cattleya elegans* having been substituted. That the plants are natural hybrids there can be little doubt, as crossings between Cattleyas and *Lælias* have given forms practically identical with imported consignments. It is probable, however, that the older name by which the plants have been so long known will still continue in use, especially as the newer one is rather more unwieldy. It matters little which is used, for the plants must ever remain as amongst the most beautiful in the Orchid family, that are worthy of decidedly more attention than is at present accorded to them by growers. It must, too, be borne in mind that their normal flowering season is when other Orchid flowers are comparatively scarce, and this alone ought to warrant their extended inclusion in all collections where the requirements of the plants can be met.

If we attempted to refer to and describe all the varieties in the Woodlands collection we should find our task a somewhat heavy one. This is not desirable, as most orchidists are familiar with such as *Schilleriana*, *Turneri*, *blenheimensis*, *prasiata*, *alba*, and many more, worthily, though these merit any distinction that can be accorded to

them by reason of their distinctive beauty. But there are others with which the Orchid world is less familiar, because they have been raised and flowered by Mr. Measures, and have never seen the outside of the place. To these we would now draw attention, for we had the pleasure of seeing them in flower some days ago. Mr. J. Coles, the head gardener, was kind enough to give particulars of the parentage of those noted on the present occasion.

For a commencement we will take Harold Measures, which resulted from a cross between *elegans blenheimensis* and *Cattleya superba splendens*. The colouration is the best feature, as it is superb. The petals are soft rose with deeper venations, the sepals being a peculiar shade of buff. The shapely lip is rich maroon. Totally distinct is *Princess Stephanie*, of which the parents were *elegans incantens* and *Cattleya bicolor*. The sepals and petals have the green of the last named with veins and suffusions of rose. The lip is rich crimson purple, and the side lobes white. From a cross between *elegans* and *Lælia pumila* has come a form named *Olivette*, which closely resembles *pumila* in the formation and colour of the side lobes. The lip is crimson, deepening towards the throat, into which it extends a considerable distance; the sepals and petals are

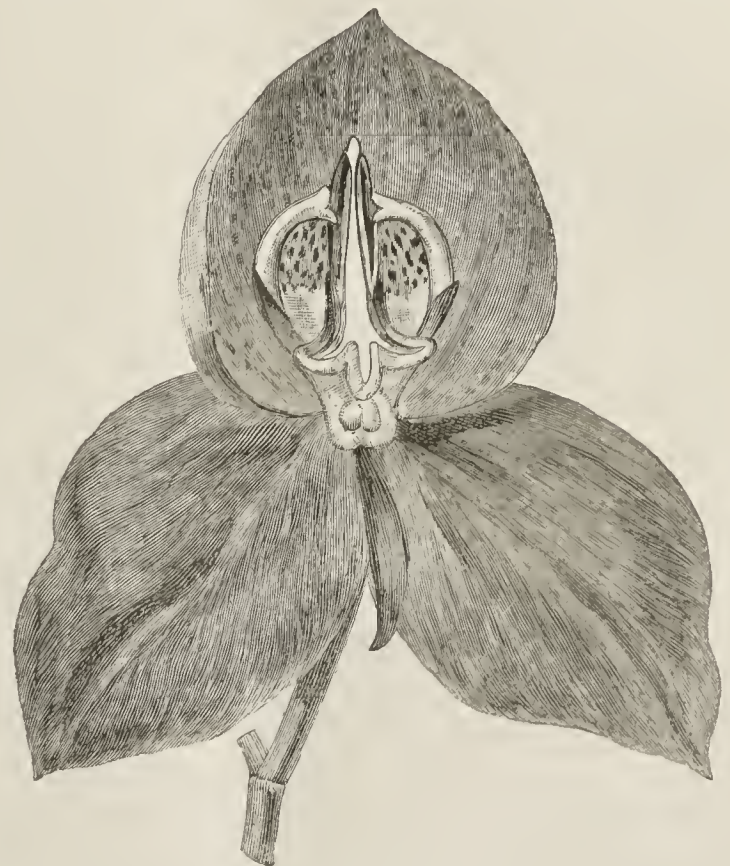


FIG. 29.—DISA CLIO.

soft rose. *Stella* is very handsome with its rose-coloured sepals and petals spotted with crimson; the lip is velvety crimson. The parents of this were *elegans* and *Cattleya Leopoldi*.

From *elegans* and *purpurata nigrum* came *Sappho*. It is a striking flower with narrow petals, rosy buff in colour, and sepals of rich rose. The lip is intense velvety crimson. Of the remainder to be mentioned we are not able to give the parentage. *Murcia* has a remarkable lip, in which the crimson of the front lobe extends into the throat to the back of the column. The sepals and petals are soft rose, chastely veined and striped with crimson. In *Amphion* the side lobes are entirely separated, and are white with slight suffusions, and a batch of bright rose at the tips; the lip is very dark. Then there are Mrs. R. H. Measures, of which the colour is pure white, save for two small streaks of purple in the lip; *Juno*, with its dark lip and throat; *Medusa*, very rich in colour; and M. G. Gifkins, all of which warrant more notice than can be taken of them just now. The first named especially is magnificent, being decidedly superior to *Schilleriana alba*, of which a fine flower was observed.

Leaving the *Lælias* we may mention a hybrid *Cattleya* etc closing these notes. It is from a cross between *Leopoldi* and *bicolor*, and evidences of both these are very clearly perceptible. The sepals and petals are quite those of *bicolor* with rose spots; the long and broad lip is rose-purple, and the side lobes (which resemble wings) are white suffused with rose. Of the many hundreds of other Orchids we may have something to say at some future date, but to a sight of the *Cypripediums* in the autumn we are looking forward with particular pleasure.—H. W.

A WET DAY.

THERE are various ways of filling up a wet day. One is to hold morbid commune with your liver, a second to annoy people about to start for their holidays with the doleful prophecy that the weather has broken up for the season, a third to write to the papers criticising the dog-muzzling order. But a horticulturist whose heart is in the right place is above the weaknesses of common flesh. He beams on the world in general as he observes his crops freshening and revivifying, and in the fulness of his satisfaction tramps about and gets wet through. Perhaps an impulse takes him to go and look at other people's crops, more especially if he has been saving up an invitation. With impulse and invitation both centring on the same spot—Eynsford—I chose a wet July day to go. Eynsford is the home of the Cannells and the Tills. Mr. H. Cannell is known locally as the "Swanley Wonder;" Mr. E. D. Till I have heard referred to as the uncrowned king of Eynsford. Men of consuming energy are they, and of a tenacious grip. Fall into the hands of either, and you are booked till the shades of night are falling. Fate flung me into the clutches of the uncrowned monarch, but the captivity was a happy one.

A NEW REMEDY FOR THE POTATO DISEASE,

And a good one, too. Not vastly more effectual than the Bordeaux, not vastly cheaper, but better to apply. Here it is:—

20 lbs. sulphate of copper.
30 lbs. common soda.
100 gallons of water.

This is Bordeaux minus lime, plus soda as the reader will see at a glance.

Two minutes after quitting Eynsford Station an alert, keen, shrewd-looking man chased me down the road on a bicycle and spun off the above formula. A thoroughly wide-awake, up-to-date farmer is Mr. Rogers, ever ready to pick up a hint, and equally ready to give one. He is not, as so many large growers are, above going to hear scientists discourse. He is practical enough to know what is useful to him in their remarks and what is not. He makes common-sense use of the former without losing his head over the latter.

Mr. Rogers quitted me, to spin along on his active and busy course, and a certain somebody of a different school, whose name I will in charity suppress, soon joined me. "Have you heard about Mr. Till's Potatoes?" he asked, "they're spoiled. He's killed them with some new wash. We've too much squirting about nowadays. I always said so." The certain somebody departed, not ill-pleased. Here was a strange contrast of statements. Was it possible that the wash was the same? Had the sharp farmer made a mistake, and were his friends suffering for it? I entered the garden of the supposed sufferer and found him smiling. Yes; he had been trying the soda wash, and liked it. As to the supposed destruction of the Potatoes—rubbish! The early sorts were dying down, and a stupid rumour had got afloat on the strength of nothing but natural decay. So much for the complacent croaker, bowled over once more, but certain to crop up again ere long with another dismal story.

BROBDINGNAGIAN BOUQUETS.

Mr. Till suggested (1) a dinner; (2) a ramble through garden and farm. The happy combination was accepted. Who knew but what another Rogers might be encountered, with another useful "wrinkle" to impart, especially as the first call was to be at Lullingstone Castle, Sir Wm. Hart-Dyke's residence? The gardens there are presided over by a Scotsman, Mr. G. Hutt. Nine visitors out of ten who had been over the place would certainly make the same response if asked what they considered the best thing in the gardens, by saying—"the Peaches." The culture of this fruit at Lullingstone is much out of the common; and in view of this a curious coincidence expresses itself in the fact that the brass and monument in the old family church on the lawn are ornamented with the symbol of a Peach. Four hundred years ago Lullingstone was in the possession of Sir John Peché, whose descendants intermarried with the Harts and the latter with the Dykes.

The house and gardens lie in a valley about half a mile from Eynsford station. The little river Darent flows through the grounds, and a broad piece of lawn stretching from the banks of the stream to the walls of the mansion is a beautiful feature of the place. Apart from a series of beds there are several huge mounds upon it, many feet high, many feet through, planted with a variety of brilliant flowers. The form of the mounds, and the full yet free and well-relieved system of planting, affords a suggestion of huge bouquets. I do not know if they are relics of the olden days, or if they are of recent construction. But in either case the result is the same; they relieve flatness and break up uniformity. Probably the average planter would rather have a piece of level surface to work upon, but any pangs he may have suffered when clinging on like a fly on a ceiling must be assuaged by the effect he has produced.

PEACHES IN PERFECTION.

One Peach tree being very much like another in the average garden, it is not altogether easy to make the difference between one man's culture and another's clear on paper. I think this sometimes as I read; I think it now as I write. But there are degrees of excellence—good, better, and best—which are apparent to the judgment, if not to be dribbled rapidly off the pen. Mr. Hutt has got past both the positive and comparative stage, and reached the superlative. A very brief inspection suffices to show that he is a master of those mysterious "finishing touches" which impress the observer and yet are beyond the compass of many experienced men. His trees are more than healthy; they glow with vitality. His

succession is admirable; and here let me give the name of one important part of it—Condor. At an early, this variety has so many fine qualities that it is almost certain to increase in popularity. For its omission from the "Fruit Manual" there is doubtless some sufficient explanation. Four years ago I ventured, in defiance of a certain amount of head-shaking, to plant Waterloo in preference to Alexander, and Condor in preference to A Bec or Early York for a wealthy amateur. The result has given the utmost satisfaction to all concerned.

VINE RENOVATION.

Mr. Hutt's vineries tell a story that has appeared in these columns before, though never with a better basis—that of renovation by improved borders and new rods. The Lullingstone Vines are old, but they carry the fine clusters usually associated with youthful vigour. The Muscats are particularly striking. The great bunches with their fine berries laugh at any suggestions of decrepitude, venerable as are the canes. I venture to think that such a state of affairs as this reflects at least as much credit on the grower as those examples of "express" culture which consist in buying fruiting canes, growing them a season and then throwing them away. The wonderful art in Vine growing represented by the latter process may have adherents, but so, to thoughtful men, will the "old-fashioned" practice of re-making borders with sound, sweet stuff; taking up new rods and allowing reasonable extension where previously there was the narrowest restriction.

Not a thousand miles from Lullingstone is a vinery where for years mealy bug has been a terror. It is so still. The Vines are listless, the bunches poor. At times there is a flicker of hope, for the pest appears to have been got rid of, but after a while it appears again. The chief told me he had tried everything without avail. He is a reader of this and other papers, and he has put into operation every suggestion that he has seen for overcoming the foe, and still it haunts his slumbers. He was asked if a saw was amongst the remedies, and answered with an astonished "No!" evidently connecting the tool with a surgical operation upon the bug. This point of view was humorous, but lacked practicability. Nevertheless, the saw is the remedy. These bug-stricken Vines are planted 2 feet apart, and the laterals are only kept from interlacing by persistent pinching and pruning. The restriction is merciless, and the crippled Vines have not vitality enough to fight against their enemies. The grower may squirt and squirt to his heart's content, but success will not reward him until he puts the saw through half the rods and gives the rest a chance of battling for themselves. I am not sure whether originality can be claimed for this point of view, but I am sure truth can.

PROFIT IN PEARS.

The digression has taken me away from Lullingstone, where neither mealy bug nor any other noxious pest has a chance, and perhaps I may not get back again. But in the same parish there is another remarkable example of successful fruit growing, although of a different kind, which is worth a reference. Hulbury Farm, Crockenhill, tenanted by Mr. Archibald Lee and brother, is on the Lullingstone estate, and is a credit to it. The broad crest of a hill-top, above the grounds of the Castle, has been turned into a fruit farm of the most up-to-date kind. True I was brought up with a round turn at the very start, for I saw half-standard Pears round the edge of the plantation, and was assured they were planted for shelter. This was a new idea, and with all deference to the judgment of men who know their business well, I venture to think Damsons would be not only more effectual, but more profitable. However, it behoves a critic to proceed cautiously hereabouts, and unsatisfactory as Pears are in a general way from the market point of view, it is unquestionable that some of the Crockenhill growers make money out of them. It is astonishing to see the magnificent fruit they get, of such varieties as Beacon and Fertility. They know their Rivers, do these wideawake growers, and not a few of them have "made a pile" out of the early Plum that bears his honoured name.

HALF-STANDARD *versus* BUSH TREES.

The class of orchard tree favoured in these parts is the half-standard. It is seen in Apples, Pears, and Plums. The reason why it is liked is a twofold one. It is preferred to a full standard because it is more accessible in pruning and gathering, which is a perfectly good and legitimate reason; and it is preferred to a bush because it can be cropped close to the stem, which is not quite so satisfactory. Very close cropping is of doubtful advantage. I know a grower who was troubled with canker in his Apples. He could not believe me at first when I told him it was all through robbery of nutriment by his Currants, which were planted very close up; but he pulled a few of the bushes out to test the point, and was very soon satisfied. He has pulled a great many more out since. On the whole, although quite agreeing that half-standards on free stocks are useful and good when intelligently managed, I regard their superiority over bushes on Paradise stocks as "non-proven." At the very least it may be said that the latter are a valuable type of tree. The Hulbury half-standards are intelligently managed, and very beautiful many of them are, none looking better than Lane's Prince Albert and Golden Spire. The latter makes a capital tree, fruits heavily, and sells well. Very sensible ideas of pruning prevail on this and contiguous farms. Not a great deal is done, but what is done is performed when the trees are young. If a tree is not carefully shaped when in an early stage, after pruning will cost more than it is worth.

A GOOD BLACK CURRANT.

A passing reference has been made to Currants. There was a magnificent crop of Blacks at Hulbury, the bushes being laden with large clusters of plump juicy fruit. I never saw a better crop, nor a cleaner.

"Big bud," the bane of the grower in most districts, gives no trouble. Hardly a trace of it could be seen. That is not because the sort is a mite-proof one. It is Baldwin's, and a better Currant does not exist; but in some parts it is dreadfully punished by the *Phytoptus*. Baldwin's is more popular as a farm than a garden Currant, but there is no reason in the world why it should not be extensively grown in private places. Its bold, upright growth, and the freedom with which it produces large clusters of fat, luscious berries, combine to render it an admirable sort. So good is it under liberal culture, that those experts who declare the various gigantic forms of it, which are talked about sometimes, to be nothing but well-grown Baldwin's, are not without a semblance of justification.

There has been disappointment amongst growers this year, for prices have been low. It was expected that with the shortage consequent on the ravages of big bud, Black Currants would stand at a premium. But the grower reckoned without his foreigner. Large crops appear to have been the rule in Holland and France; anyway, the Dutchman has poured his consignments merrily in.

A REMEDY FOR CHARLOCK.

I conclude these rambling notes as I began them, with a remedy for a troublesome pest. Mr. Lee showed us an experiment on charlock infesting ground under a crop of Oats. He syringed with Bordeaux mixture when the weed was young, and destroyed it without injuring the Oats in the slightest degree, indeed they looked rather the better for the application. So did the beautiful acres of flowers, garden Peas, and Strawberries on Mr. Cannell's great farm, for the downpour that still went on. The annuals were a glorious sight, and the Asters just coming into beauty. But the dusk was gathering, and the rain falling faster and still faster. We left the flowers in their fresh and glistening brightness, the five-foot-nine man to borrow trousers that were made for six-foot-two, and muse over his own picturesqueness.—W. PEA.

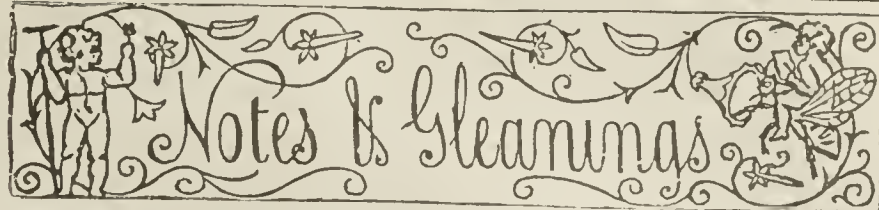
THE BUSINESS OF JUDGING.

THERE is much truth in what "Visitor" has said on page 147, *re* judging. But I cannot agree with him when he says that "as a rule the reasons ought to be as clear to the non-professional visitor as to the judge or the competitor." How often do we see competition so close that we have to search for technicalities before we can decide? Surely in such cases this should not be an easy matter for the non-professional to discover.

I will give an instance of what I mean. I was recently asked to judge at a small show, and in going through the various classes I came to one of Fancy Dahlias. I believe there were three competitors in this class. Now, one of the stands of blooms at first sight was far superior to either of the others; but on looking a little closer into it I discovered that the best side of each bloom was placed towards London (as the saying goes), for not only were the lower parts of the blooms badly decayed, but a considerable portion of the sides of some of them also. I therefore gave the smaller but fresher blooms the preference. This caused disappointment to the exhibitor, as well as some astonishment to the visitors. The exhibitor wished to know on what grounds I based my decision, which I readily pointed out to him; whether I satisfied him is doubtful.

"Visitor" goes on to say that the trouble generally arises from the putting of men to judge exhibits of which they are comparatively ignorant. Quite so! But then every society cannot employ two Judges for each section of the exhibition. Generally speaking, provincial societies can only afford to employ two Judges, and very often they have to start work an hour, and sometimes more than this, later than the time specified, but they must not keep the public waiting outside the tent or room. Only one day last week I was judging with a well-known gentleman at a country show—our duties were to judge the flowers and fruit. Eleven o'clock was the hour appointed for us to commence, instead of which it was half-past twelve before we were allowed to begin. The public were to be admitted at two o'clock, and as that time approached we were constantly reminded that the public must not be kept waiting, and to kindly get on as fast as possible. Small wonder if under such circumstances mistakes are made, and from considerable experience I fear that this is not an exceptional case.—PROVINCIAL.

ÆSCULUS PARVIFLORA.—This is one of the oldest exotic shrubs that we have record of, having been introduced into English gardens by Mr. J. Fraser in the year 1725. During the time that has elapsed since that date the plant has had a variety of names, the best known, possibly, being that of *Pavia macrostachya*, that name being now dropped in favour of the above. However old it is, though, it is a really good flowering shrub, and should be seen more often than it is, for it flowers at a time when most other shrubs are past. It is very accommodating as regards soil and position, as it grows and flowers well almost anywhere. When mature it is from 8 to 10 feet in height, and makes a perfect shaped bush 12 or more feet in diameter. The effectiveness of a bush of these dimensions may be imagined when every shoot is terminated with an upright raceme 1 foot in length, of white flowers with red anthers. Besides being a good garden plant it might be made useful for cover, groups in parks, plantations, or other places. It can be readily increased by layering some of the lower branches. It is a native of the South-eastern United States, and has been figured in the "Botanical Magazine," t. 2118.—KEWITE.



WEATHER IN LONDON.—At last we have a decided change, and one which those who are still holiday-making will scarcely appreciate. Thursday, Friday, and Saturday morning were fine, but the afternoon of the latter day brought a squall of wind and rain. On Sunday evening rain fell heavily for some time, as did it throughout Monday evening. On Tuesday it was bright and warm, but throughout the day the wind was rather high. On Wednesday morning it was clear and fine.

— ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Floral meeting of the Royal Horticultural Society will be held on Tuesday, September 6th, in the Drill Hall, James Street, Westminster, 1 to 5 P.M. A lecture on "The Disa" will be given by Mr. T. W. Birkinshaw, at three o'clock.

— THE FRUIT HARVEST.—In Cambridgeshire the fruit harvest, which promised so well in the spring, is said to have turned out a comparative failure so far as the fruit for which the district is famous is concerned, viz.—the Green Gage. Where growers have been able in previous years to send off consignments of 10 tons, they can this year hardly muster one, and the jam manufacturers who buy largely in this district have to look elsewhere. The price obtained is much higher, but it does not compensate the growers for losing the advantages of a plentiful year. Apples are a variable crop, some orchards and some sorts in the same orchard yielding abundance, and others a scarcity. Bush fruit, which the Cambridgeshire growers are adopting for planting between Apples and Plums in laying out new orchards, has been very successful.

— DEATH OF SIR HENRY W. PEEK.—The death took place at Rousden, Lyme Regis, on Friday last, of Sir Henry William Peek, Bart., at the age of seventy-three. The deceased gentleman took considerable interest in gardening, and several years ago erected an imposing range of glass, new bothies for young men, and an excellent house for his head gardener. We think Sir Henry was one of the first to encourage educational gatherings of gardeners. Meetings were regularly held in the large room of the bothy, Mr. Ollerhead having liberty to invite any of the gardeners of the district to a substantial tea dinner, after which a paper was read and discussion invited. Many such happy and instructive evenings were spent some twenty years ago. Eventually Sir William purchased his native parish of Rousden, and for several years was engaged in the erection of a mansion and the formation of gardens and pleasure grounds.

— ROYAL BOTANIC SOCIETY.—Writing in a recent issue of the "Times," Mr. C. Brinsley Marlay says:—"At the annual meeting of the Royal Botanic Society, at which I took the chair, there was one aspect of the Society I could not dwell on as I should have wished, and yet it is one of some importance. When the gardens of the Society were first formed, not only were they intended to promote horticulture and the study of botany, but also to protect a spot in the centre of London where some of the quiet features of Nature might remain untouched, plants common in the country, but rare in London, might still find a home, and birds nest there undisturbed. To many, too, the sense of quiet and repose which the gardens gave was delightful—a feeling of rest, which only the country can give. It was for these reasons that the Fellows reserved to themselves the right not to admit the public indiscriminately; that, like the squares, a character of privacy was maintained, though it was never difficult for quiet people to obtain admission, or any serious student of Nature. This spirit of exclusiveness is not now maintained, and the gardens are as much open to the general public as is possible, if they do not altogether lose the original intention with which they were formed, and the natural beauty, which they still possess, altogether disappear. To turn them into an inferior Ranelagh, or a bad imitation of the Palmen Garten in Frankfurt, would probably end in a financial failure, and take away one of the few places where the tired man of business, the invalid, and the old may find a few moments of repose, a few minutes of quiet, away from the noise of the crowded street, the cyclist, and the omnibus. They who like crowds have every opportunity of enjoying themselves in London, but those who would fain be a moment at rest hardly know where to go. Every day before the ruthless builder tranquil spots and relics of the past disappear. The few which it is possible to preserve become every day of greater value."

— CORRECTION.—We regret to observe a slight error in our report of Shrewsbury. In the gold medal group, staged by Messrs. E. Webb & Son, Wordsley, reference was made to the Gaillardias instead of Gloxinias. The latter were splendid, and made a very brilliant display.

— VINE ROOTS THROUGH A SLATE TANK.—Regarding the wonderful power which Vine or other roots have of overcoming or penetrating obstacles, I may draw attention to the following. During a visit to the famous vineries at Norwood, Alloa, N.B., in July last, there was pointed out to me a healthy Vine root growing at the bottom of the vinery tank. It had forced its way through the apparently waterproof joints of the slate, and if it is kept growing in the water as at present, there will be danger of the slate slabs being forced apart where it enters the tank.—X. L. C. R.

— A VISIT TO READING.—A party numbering over thirty, representing the Committee and members of the Lee, Blackheath, Lewisham, and West Kent Horticultural Society, visited Messrs. Sutton and Sons, Reading, recently. The party walked to the market place, being there met by Mr. L. G. Sutton and his nephew, Mr. H. F. Sutton, and after seeing the offices and seed warehouses, partook of an excellent luncheon. This pleasant part of the day's proceedings being over, Mr. Martin conducted the company to the seed trial grounds, and thence to the nurseries, where everything was fully and pleasantly explained.—F. F.

— CARNATIONS FROM SCOTLAND.—We have been favoured by Messrs. Laing & Mather of Kelso-on-Tweed with a few blooms of Carnations grown from layers taken last season. Despite the long distance they had travelled they reached us in such a fresh state as to allow of their richness and beauty being readily appreciated. The flowers were of moderate size, of bright colour, and excellent quality so far as form and substance are concerned. Amongst the best were Lady Waldie Griffith, The Pasha, Dundas Scarlet, Lady Nina Balfour, Queen of Bedders, Valkyrie, Kelso Abbey, Miss Eastlake, Primrose League, and Queen of Yellows.

— KENTISH FRUIT SALES.—Numerous sales of growing crops of fruit have been held in Kent during the past fortnight, and the prices realised have on the whole been satisfactory to growers. On Friday, the 19th, a sale was held at Paddock Wood by Mr. Tompsett of the crops of about five hundred acres, consisting of Apples, Pears, Plums, and Damsons, and the prices obtained for the more important crops were as follows:—Hale Street Farm, Apples only, 5a. 2r., £45. Tanners and Church Farms, Apples only, 4a. 2r., £40. The Grange Farm, Apples, Plums, and Damsons, 6a., £200; Damsons, Pears, and Apples, 2a., £10; Apples, 25a., £210. Badsell Farm, Apples, 10a. 3r., £155. Hadlow Place—Damson plantation, 1a. 2r., £34; young plantation, Apples and Plums, 3a. 2r., £60; Apples, Pears, and Plums, 3a. 0r. 28p., £54; Gold Hill Farm, Apples, Pears, and Walnuts, 3a. 2r., £37. Cronk's Farm, Apples, 4a. 2r., £105. Baiden, Damsons and Apples, 18a.; Apples, Plums, and Damsons, 19a.; and Apples, 2a. 2r., £455. Brenchley, Apples and Damsons, 8a., £125. Matfield, 2a. 1r. 15p., £22.

— SOME RAINY WEATHER.—In the east and south-east of England, and also in neighbouring parts of the Midlands, the showers of Saturday and Sunday have been far too slight to effect any relief in places where the water supply is running short. As a rule the total fall of rain has not amounted to more than a tenth or two of an inch, and in some localities it has been even less. In London some attempts at rain were observed several times on Saturday, but nothing of any importance fell until late in the afternoon, when there was a heavy shower, lasting, however, but a short time. The amount of rain varied considerably even in closely adjacent places, for while Brixton had only 0.09 inch, Wandsworth Common had 0.14 inch, or half as much again, Tulse Hill coming between the two with 0.11 inch. At times, says the "Daily News," the appearance in London on Sunday was again threatening, but no appreciable rain fell until the evening, when another smart shower occurred shortly after seven o'clock. Upon the whole the day was bright and breezy, with a temperature ranging from 52° in the early morning to 70° about midday. In all the more western and northern parts of the kingdom, where by the way it was not needed, the rainfall has been fairly heavy. At Liverpool, for instance, on Saturday there was nearly half an inch, at York more than six-tenths, and at Pembroke just seven-tenths of an inch. In some parts of Ireland the fall was still heavier, and over the entire western half of the kingdom, the total rainfall for last week was, as a rule, considerably in excess of the average, the amount at Holyhead and Liverpool being more than twice, and at Pembroke more than three times as much as the normal.

— DEATH OF MR. JOHN KNIGHT.—We learn with regret of the recent death of Mr. Knight, who was until 1887 Superintendent of the private gardens at Hampton Court. The deceased was appointed foreman of Frogmore Pleasure Grounds nearly seventy-three years ago, and for twenty years he was head gardener to the late Duchess of Kent. In 1861 he was transferred to Hampton Court Palace.

— FLOWER SHOW AMENITIES.—A well-known exhibitor at a recent important southern show mentioned to me an exceedingly unpleasant and I trust absolutely unusual experience. The rules stated that no exhibits could be removed till the close of the show at 10 P.M. on the evening of the second day. When, therefore, the exhibitors proceeded at once to pack up their fruit and other valuable products, that they might get them away to the railway station to catch the early morning trains, they were peremptorily ordered out, and the lights were at once extinguished. Surely that is at once very wanton and discourteous treatment. I invited some explanation, as I concluded there must be special reason for such a strange and unwarrantable action. My informant said that there were some old exhibitors at the show on the Committee, and an impression prevailed that there was a desire to make for more successful ones from a distance things as unpleasant and inconvenient as possible. Assuming that what was told me to be true, I should certainly give the show in the future a wide berth. I find in some directions every desire to encourage the presence of exhibitors from anywhere, because the making of a really great show is the object. How that policy succeeds Shrewsbury, for instance, can tell. In other directions the object seems to be to keep everything for the local men, with the result that a poor show often follows.—CRITIC.

— TRADE GROUPS AT SHREWSBURY.—When I see the attractive groups of plants or of flowers set up by members of the trade at various flower shows I can but express a hope that they find ample repayment. Still both show committees and the general public owe to these traders a deep debt of gratitude for what they do to render exhibitions so effective. What a remarkably striking feature at Shrewsbury was Messrs. Cannell & Sons' splendid group of Cannas, sent all the way from Swanley. No other such group of Cannas was there, and the public gazed upon them in crowds with warm admiration. How well was the gold medal awarded deserved! What a superb decorative group would Cannas alone as flowering plants make in association with the usual foliage plants! From far off Yeovil, away in remote Somersetshire, came Mr. B. R. Davis with his beautiful Begonias, really the best of their kind in the show. It was a long journey for plants so brittle as are these huge flowered double Begonias, yet they reached Shrewsbury in fine condition. Messrs. W. & J. Birkenhead of Sale had one of their remarkable collections of Ferns, such as open to the lover of these singularly interesting plants a wonderful field for enthusiastic inquiry and admiration. Mr. H. Eckford, the champion raiser of Sweet Peas, was not far from home with his superb group of these lovely flowers, neither were Messrs. Prichard and Sons with their grand Carnations. These were not all, but they serve to show how wonderfully the trade can assist in making a great display at this marvellous exhibition.—A. D.

— THE FUTURE OF GLOVER'S ISLAND.—Inquiries made in Richmond on Saturday showed that the probabilities of the Corporation acquiring Glover's Island for the inhabitants have increased considerably since the announcement of his intention to dispose of the property by auction was made by the owner, Mr. Glover. The action taken by the Mayor of the borough, in conjunction with the Town Clerk, in securing for the town the option to purchase up to the 20th of next month (the day preceding the date fixed for the sale) at the reserve price of £4000 has met with general approval. In this connection, however, it must be borne in mind that the offer has been directly made to the Corporation, and it is still an open question whether the members of the Town Council will ratify any proposal to expend such a large sum as £4000 out of the borough cash for the purchase of the island. On Saturday the Mayor (Alderman Chancellor) returned to town and visited the municipal buildings, where he had a conference with Mr. Senior, the Town Clerk, upon the matter. As a result it is understood that a special meeting of the Council will be called at an early date. The matter will be fully discussed by the members, and then referred to the Amenities Committee for further consideration and report to the Corporation. Although no public subscription list has been definitely opened up to the present, it is understood that an appeal to the townspeople will be made for funds in order that something tangible may result in the form of securing the purchase money in the event of the Corporation refusing to sanction any proposal to purchase out of the borough funds.—("Daily News.")

THE HISTORY OF THE SOILS OF THE BRITISH ISLES.

(Continued from page 84.)

RIVER LOAMS.

IN the endeavour to determine the characteristic qualities of the loamy deposits formed by the action of rivers, we may with advantage trace the course of some of the principal streams of the country. We shall thus be able to show how greatly the character and quality of our loam beds depend upon the mineral peculiarities of the formations through which the waters flow, and from which they have derived the various matters which have been deposited so largely on the plains and in the valleys contiguous to them, producing the distinctive soil we call loam.

Taking the Thames for our first illustration, the basin of which includes in its area lias, oolite, weald clay, greensand, and gault, chalk, and the tertiary deposits. These formations naturally give their special characteristics, not only to the soil they contribute, but to the water itself, which is capable of holding in solution the mineral products of the land. As might be expected the large area of chalk, 2096 square miles, lime is largely present in the Thames deposits, and this is also shown by the great accumulation of flinty gravel, enormous beds of which exist in the ancient as well as modern river bed. This gravel has by attrition produced considerable deposits of siliceous sand, often collected in beds, but also mixed with the finer particles derived from the lias and other clays. Oxide of iron from the same source, soil and fossils from the oolite and cretaceous beds, and organic matter from many sources, have together made the Thames loam beds a soil admirably adapted for the cultivation of fruit trees, and for many horticultural purposes.

The river Trent will serve as another illustration. This river has a length of 147 miles, and with its tributaries drains 4052 square miles. It passes through carboniferous limestone, magnesian limestone, permian limestone, and the marls of that formation, triassic and new red. These last embracing an area of 1562 square miles. Lias and oolite are also included in its range.

Traversing so great an extent of triassic sandstones, and the soft red marls, the loamy deposits have accumulated extensively, and partake strongly of the character of these formations. The gypsum beds of the new red have contributed sulphate of lime, and the saliferous marls their peculiar property. The magnesian limestones have also yielded their characteristic product. In the gravels and sands we have relics of each of the formations, including the grit, and the already rounded pebbles of the Bunter conglomerate.

From the above cursory description of the collecting ground of the Trent, it will be seen how marked a difference must exist in the character of the loamy deposits of the two rivers—the Thames and Trent—and in this difference of chemical constituents and mineral components will be found an explanation of many cultural difficulties which have occasionally attended horticultural practice first pursued in one district and subsequently carried to another part of the country. Roses attain a very high development grown on the loams of the Trent, this suggesting experiments in chemical applications to soils less favourable to that flower.

A third instance, that of a Scottish river, will sufficiently illustrate our argument as to the diverse character of the loams of different rivers, and their possession of distinct properties, a matter it is most important that all persons engaged in the cultivation of plants should be acquainted with. The Tay drains an area within the Grampian mountains, and portions of the old red sandstone, of in all 2250 square miles. It passes through granite, trap, gneiss, mica schist, and old red sandstone. It is not to the action of running water alone that we must attribute the immense accumulation of gravel, sand, and loam found in the river valley of the Tay. Ice action has been largely instrumental in the production of detrital matter.

The combined result of the water and ice streams has been to form beds of enormous thickness. Unlike the deposits of English rivers these possess but little lime, and the comparatively small amount of soda and potash that is found is derived from the feldspathic ingredients of the rocks; and organic matters do not appear to have entered very largely into the composition of the loams of this river, but the possession of the mineral constituents of fertility is attested by the successful results of the cultivation of fruits and plants in the valley, and the enormous development attained by forest trees as seen at Dunkeld and Murthley.

The action of rivers in the aggregate has been so great in ancient times in the displacement and dispersion of the solid substances of the land, that no account of the origin of soils would be complete without a description of the changes that have been effected by their means. Every river has its special history, and the incidents of its career are written in its deposits of sand, and gravel, and loam.

In the comparatively limited area of England and Wales there are

no less than 218 rivers of more or less importance, and these are still active, and with other agencies are pursuing the work of denudation, annually removing incredible quantities of earth.

In reviewing the history of soils, and especially those connected with the operation of rivers, we have to notice the deposits at once the work of rivers as they enter the sea, and the tidal waters they encounter in the estuaries, resulting in the intermixture of the mineral and vegetable *débris* of the ocean and the land, the deposition of silt being so great in most cases as to form deltas, and so to lay the foundation of tracts of land. But it is not with the present operation of estuaries that we have to do, but rather to notice while treating of loams the accumulations found in various parts of the country apart from rivers, and the result of ancient estuarine action which still may be denominated loam. Examples of this kind of soil are found at Cheshunt in Hertfordshire, and the loam beds of the famous nursery gardens of that place are probably ancient estuarine deposits.

The counties of Suffolk and Norfolk possess rich tertiary deposits of a distinct and interesting character. Some of the marls, loams, and shelly deposits, extensively distributed throughout these counties, have rather the character of composts artificially enriched, than sedimentary accumulations, the gift of angry waters. Many rich formations have been laid under contribution to furnish the bone beds, corals, and other fossils, and denudation of considerable surfaces in the interior of the country is indicated by the occurrence of these things on so extensive a scale. Even in the gravel beds of Suffolk fossils and ironstone from the middle lias, spoils from the oolite, and contributions from the trias. The pliocene deposits of Norfolk and Suffolk illustrate our remark as to the great part played by the waters during the submergence of the country in the displacement and redistribution of the matters composing its rocky structure. The retiring waters of the drift probably deposited the sands, silts, and alluviums for which the counties are remarkable.

Every river, large or small, receives contributions of soil from adjacent land, loosened by atmospheric action, and carried into the nearest rivers, generally the arterial drain of the district, by rain. The river on its way to the sea, or to join another more important outlet for the waters, passes through various geological formations, and gathers the loose earthy matters, or any removable substances from each, blended by the flowing water, and especially by floods, to which all rivers are liable. These matters are variously dispersed, but often curiously assorted in beds of sand, silt, gravel, clay, and loam. Some of the lighter particles in flood time may even reach the mouth of the river, and precipitated contribute to the formation of a delta, but the sides of the river valleys or the flat expanse of country through which the stream may flow receives through annual inundations the rich deposits from the mingled matters; these accessions form in time our rich loam beds. Some of the best land of the country is the result of the deposits of rivers, and these rich accumulations of soil often rest on beds of gravel, giving them a natural and an efficient drainage. Rivers are constantly changing their course and, receding from the beds they have deposited, leave an expanse of land of the finest quality.—P. T. INGRAM.

(To be continued.)

OLEARIA HAASTI.

FROM the early part of August this evergreen shrub has been very conspicuous by its profusion of white flower heads, and has made its presence "felt" by the fine Hawthorn-like scent, it being deliciously fragrant. The bushes range from 3 to 4 feet in height, and are very compact and woody. Of the shrubs of the year I consider it one of the finest, its sprays being fit for the choicest bouquet, and everybody can have it for a trifling outlay. In winter time it has an excellent effect as an evergreen, having a light appearance instead of a dull, dreary, sombre aspect, so common to many evergreens in winter.

Though a native of New Zealand it proves quite hardy in Mid Herts, 400 feet above sea level. The soil is a gravelly loam of medium texture over chalk, this seldom being nearer the surface than 6 feet, and sometimes 60 feet or more. It thrives in rather confined places, even in the "heart" of not very smoky towns, and is an exceedingly desirable evergreen for seaside planting.

According to some it succeeds in almost any soil, but it went off with me on a very dry stratum on oolite, and also on stiff loam on lias. I conclude, therefore, that *Olearia Haasti* has its likes and dislikes, hence my sending you these notes of its success on gravelly loam which is stiff enough to grow Wheat, and also naturally drained, so as not to necessitate under-draining.

The species is readily propagated by means of half-ripened young shoots, inserted in sandy soil under a bell-glass, and shaded. The young plants cannot be grown too hardily after they are rooted, nor be given clear space too carefully right along in order to have bushy plants. When leggy they are not only ungainly, but do not transplant well. Low standards, however, are very beautiful.—ST. ALBANS.

BYRAM HALL.

ACTING on the advice of a gardening friend, Byram Hall was included in a little tour made amongst Yorkshire seats, and excellently was the visit repaid, for the estate is a grand one in all respects. The owner of the domain is Sir John Ramsden, Bart., whose interests are mainly arboricultural, as is proven by the splendid trees with which the park and pleasure grounds are adorned. When trees are spoken of in this manner it is usually taken for granted that they must all have attained to considerable age and stature. At Byram such is not wholly the case. True there are Limes, Elms, Sycamores, Oaks, Copper Beeches, and others that have breasted many a storm (and not always come out

opinion of the writer, cannot compare with the shades of tender green that are given to us in every plant, bush, and tree in the earlier months of the year. I admire arboricultural pictures at all times, but never more than when everything is showing promise of the beauty and the bounty that are still to come.

The gardener-in-chief is Mr. George Taylor, and it was he who acted as guide in the wander round the pleasure grounds and the deer park. It is difficult to say what is the finest feature, but the most charming and interesting is what is termed the radiating points, whence broad grass roads, some approaching, and at least one reaching a length of two miles, lead in six directions. As a Londoner, I am perforce reminded of

the radiating points of Seven Dials, which are unquestionably more notorious than those of Byram, but infinitely less salubrious. In London we have a fair amount of dirt and darkness, while in Yorkshire we find cleanliness and light. This was an admirable idea, whoever was the originator; but had he looked a little farther into the future the too common serious error of close planting could have been easily avoided. Now, the shrubs and trees are so packed that it is only occasionally one shows its full beauty. Here a fine Scottish Laburnum has found a way through, and is nothing short of superb; while yonder is another tree, presumably planted at the same time, but which is about 50 per cent. less effective, simply because development was an impossibility.

It is, of course, easy to see that in the original formation there has been straining for immediate effect, and little or no

thought has been given to ultimate results. The consequence of this is the mutilation, or perhaps malformation is the better word, of the plants utilised. In the instance to which we would draw particular attention there has obviously been an abundance of material at command, and a considerable amount of taste has been displayed in the placing, so that the various shades of green blend admirably for the production of effect. It is regrettable that a conception of such excellence should have been so marred. Now it will be necessary to thin out vigorously, so as to give room for those that are allowed to remain to attain to proper proportions. Unfortunately an operation such as this always entails worry, as where there are so many choice plants to be dealt with it is difficult to know which to dispense with and which to allow to remain. Standing at the junction of the six radiating points, and turning first in one direction and then in another, a series of views is had that everyone must admire. There is no sameness, nothing that could fatigue the eye, while locomotion over the thick green carpet of grass is more than comfortable, for it is quite luxurious.

Passing along one of the avenues and through a field of hay, we enter upon an avenue of Limes that have reached patriarchal age and dimensions, and look very beautiful. These form a very delightful shade for a walk on the hottest of days, the coolness being most refreshing. Emerging from this brings us on to the northern terrace of the lake, which stretches for a considerable distance through the grounds. On the southern side the walk approaches quite close to the margins of the lake, and here again a new avenue has been formed, but has not yet got of any material size. As a water scene the most beautiful is from the north terrace, looking towards the east. This gives an expanse of water with occasional islets through the verdure-clad banks on each side beyond a rustic bridge that spans the water and is lost at the meeting of the verges in the distance. No prettier picture than this could be desired, for the trees are diversified, and consequently the shades and tones of green are very numerous. Copper Beeches, too, add materially to the panorama, as do the Sycamores with their large shining leaves and the evergreens with fine foliage of blueish grey, green, and yellow.



FIG. 50.—BYRAM HALL.

scatheless); but there also are others, young and strong, that have scarcely reached manhood, and which will be there in memory of Sir John when his successor's successors are the proprietors of Byram. Even now, in their youth, they adorn their positions, for they have been planted by no unskilful hand. Where a clump would be most effective there a clump is found, while if the position were better suited to one tree there is a single individual placed.

No spirit could be more commendable than is this, and it justifies unstinted praise. Byram is not a modern estate—on the contrary, it is an ancient one, and from all appearances the spirit that imbues the present owner was common to his predecessors, for the tree planting has been successional, as a glance will tell. Let us trust the coming generations will follow in the footsteps of their forefathers, and then will this remain, as it is to-day, one of the most charming homes in Yorkshire. For the two photos that accompany these notes we are indebted to the kindness of Mr. E. I. Walker, Carlton Street, Castleford, Yorks, for whom they were taken by Mr. J. Baxter. The one showing the mansion is very typical, having been taken across a rock-surrounded lake, while the other portrays one of the gateways in the garden; but to these we shall revert a little later. Several other excellent photos were offered, but, unfortunately, space did not permit of their utilisation, charming as the whole of them were.

As has been said in the notes of other demesnes, the month in which these journeys were made was June, and probably no better time could be chosen than this for seeing Byram at its best. Then the trees had not lost the garb of spring, the Laburnums were a sheen of gold beneath their canopy of green, the air was fragrant with the odour of flowers, indeed everything was fresh and bright. There is another season of the year that many people's estimation would place equal, if not superior to late spring, and that is the autumn. Then the tones of colour in the trees must be most handsome, as the diversity is exceedingly great. There ought to be endless tints, but these, in the

The north terrace, with its handsome stone balustrade, is exceptionally imposing and elicits the admiration of everyone. Beyond the stone wall on the one side we have the water, and quite on the other side of the walk there is the soft green turf, with a background of fine trees almost the whole length. At one portion, however, there is a flower garden, with a splendid range of plant houses against a wall at the back. These beds are filled with plants of decided character or colour, so as to harmonise with the boldness of the terrace and the grandeur of the view. Continuing our onward way we traverse the forefront of the mansion, a plain, substantial edifice, of which the character is well shown in the photographic illustration (fig. 30). Its aspect is somewhat severe, as are the immediate surroundings within the low stone wall, for there is nothing but smooth grass. Keeping within the shadow of the house we come to the rocky verge of the water in the foreground of the picture. The banks are clothed with greenery of various types, and present a pleasantly cool outlook. This lake is comparatively small, but the whole of it cannot be seen from the corner of the terrace next the mansion, hence an impression of greater size is unconsciously embedded in the mind that is not dispelled until the other bank is reached.

We traverse a corner of the Great Deer Park, in which the graceful animals have ample space to roam either in the open or beneath the shade of noble trees, while the waving Bracken forms abundance of cover. It was from this point that a handsome old Lime, whose branches cast shadows of great extent, with Oaks and Beeches, were seen to the best advantage. Re-entering our guide's charge, but on the opposite side of the water from the mansion, we find evidences of newly made alterations, that will look well in the course of a year or two. Very large beds have been formed for Rhododendrons and other plants on the slope towards the water, while on the higher ground beyond are rockeries, with belts of shrubs and forest trees. The rockeries are still bare, but will eventually be charming corners. On the grass hereabouts several of the trees are very fine, and must be of great age. By cool walks and deviating ways we return towards the gardens, observing by the way some grand Yew hedges, the splendid entrance gates from the large park, and other features, until we reach Mr. Taylor's home, where an adjournment is made for rest and refreshment ere seeing the houses and gardens that are adjacent.

Flower gardening after formal designs is not extensively practised at Byram, though here and there are beds of varying sizes which annually make a bright display. For the supply of hardy cut flowers, however, reliance is placed upon the several wide borders, in which are hundreds of plants producing thousands of flowers. These are most effective, and answer the dual purpose of embellishing the garden and at the same time affording ample material for cutting. It would be impossible to give a list of the names of all the plants grown, as it would occupy too much space, so we will omit them entirely. There are bulbous, shrubby, and herbaceous plants thriving splendidly, and it was noted that Roses were very healthy. Some of the clumps of Lilliums, as well as others, are large, but at the same time plenty of room is allowed for each to make its best growth, as it is under these circumstances alone that flowers of the finest quality are yearly produced. There is a border of such plants on each side of the path with the handsome gateway shown in fig. 31, at the extremity of which is seen a statue of Bellona, the Goddess of War. Statuary of various kinds is abundant, and some of it is particularly handsome.

Before turning to the glass houses we may just glance at the vegetable and fruit gardens, from which large supplies have to be drawn. Of fruit there are Apples, Pears, Plums, Cherries, Gooseberries, Currants, Raspberries, and Strawberries in excellent form, and from the labels it was easy to recognise the fact that many of the best varieties find a place. Apples and Pears as espaliers and as bushes in the open look wonderfully well, and were producing a fair crop, but bad

weather has come since they were seen, and it may have materially altered the general aspect of affairs. Several trees on the wall were in excellent condition, and under ordinarily favourable circumstances would give bountiful results. Small fruits occupied a goodly amount of ground, and these, again, were entirely satisfactory. To Strawberries much attention is given in order to insure fruits of the finest quality both in respect of flavour and appearance. As a matter of fact such is the case with all the fruit crops, and they, doubtless, give adequate returns for the skill that is expended upon their culture.

Naturally enough the vegetable gardens, producing such valuable foods as they do, are of some extent, but by no means too large for the demands of the establishment. Broad drifts of each kind are grown, and, of course, there are many varieties of everyone of them. Potatoes, for example, were seen in large quantities, and the same may be said of Asparagus, Seakale, Peas and Beans, with root and green crops. The first named were being dug in splendid condition on June 17th, and a trial of them proved the flavour to be then well developed. Salads had also a place, though the month is not one when outdoor salads are likely to be met with in immense quantities. As is customary in good gardens the cultivation of the ground is excellent, so as to admit of the continuous close cropping that must perforce be followed up. If such were not the case it would probably soon be found that a break in the supply was inevitable, and no gardener likes such to occur from any reason that it was in his power to overcome.

Unfortunately the smallness of the space now at disposal prevents justice being done to the fruit and plant houses, which are extensive and admirably equipped. In the fruit department the Vines were splendid, though not a bit superior to the Peaches, Nectarines, and other fruits. In each case the cleanliness of the structures and of their occupants was most marked, and no doubt this simple fact has its bearing on the excellence of the crops that are produced. In addition to those named Mr. Taylor grows Bananas very satisfactorily, and doubtless these are much appreciated, for the flavour of English produced "fingers" is incomparably superior to those which come to us from the West Indies.

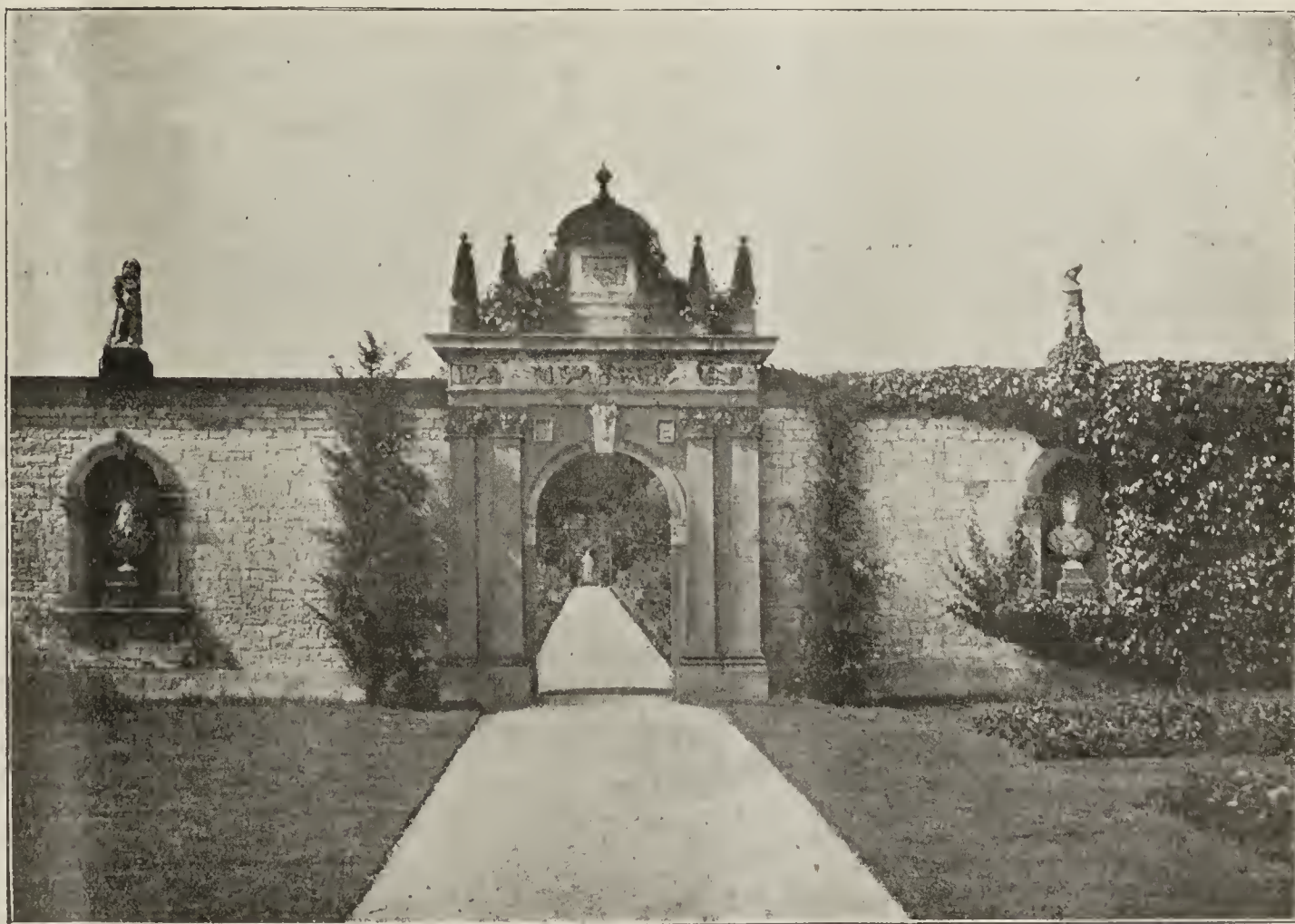


FIG. 31.—A VIEW IN BYRAM GARDENS.

A glance at the plants and we must come to a close. The structures are comparatively numerous, and the stock contained within them extensive. Plants that are requisite to meet the requirements of the establishment were seen in numbers, and these, of course, comprised those grown for their foliage as well as others for the beauty of their flowers. Writing for the perusal of experienced gardeners it is not necessary to give any names, as the plants that would be used will come instinctively to the mind. Byram, with its noble parks and trees, its terraces and lakes, its splendid avenues of Yews and Limes, its fruit, its flowers and its plants, was more than worthy of a visit, for it is a credit to Sir John Ramsden and to Mr. Taylor, his gardener.—H. J. WRIGHT.

A HOLIDAY TOUR.

WE are told that a change is as good as a rest; and a rest is an indispensable factor, for by it we are re-invigorated, both physically and intellectually. In sports there is such a thing as a man being over-trained, and he is ordered a rest, a change, which allows his muscles to resume their natural conditions, and his excited nerves to assume their normal state. After such a change of rest, air, diet, scenery, and company for a time, he returns to his former occupation feeling a new man. If it is necessary, then, for the footballer or the cricketer to have this change, how much more important it is for the gardener, who toils for twelve months from early morning till late at night, both physically and mentally? He undoubtedly enjoys his work, and looks forward with hopeful expectations that the results of his labours will prove satisfactory. To such a man a change would be highly beneficial, and it is to be regretted that so few of the "blue-apron craft" get beyond their own garden gate.

There is no accounting for tastes, and to leave the Garden Isle for a holiday during the Cowes week, when everything seems astir, and nothing wanting to make life happy and enjoyable, seems well-nigh incomprehensible; but such is the case. Sailing from Cowes Pontoon one beautiful day early in August, we threaded our way amongst the innumerable yachts anchored in the Solent and the man-of-war—the presence of the latter being a sign that her Majesty the Queen is in residence at Osborne. On our way up the river we passed the royal yacht on which H.R.H. the Prince of Wales is imprisoned, but where everything has been done to insure him the greatest comfort, and where he can enjoy the yacht racing which takes place daily during Cowes week.

The extra traffic was responsible for our being three-quarters of an hour late into Southampton, whence the journey to London occupied nearly three hours, which, however, seemed to glide pleasantly away owing to the harvesting operations en route, and the admiring of the orchards and allotment gardens on the wayside. It may seem strange to many of our readers, but the agricultural operations between London and Southampton are much ahead of those in the Isle of Wight.

My first day in London was spent at the Oval watching the Surrey and Yorkshire match, while in the evening I visited Kennington Park, which is under the management of Mr. Rogers. The carpet bedding is varied and effective, and if the season had been more favourable to the development of colour in the *Alternantheras*, the effect would have been still more marked. The sub-tropical bedding is judiciously done, and considering that there is no glass the condition of the park as a whole augurs well for its future success.

On the second day of my holiday I went to the R.H.S. Gardens at Chiswick in the morning, where I was received with the greatest courtesy by the Superintendent (Mr. S. T. Wright), who is ever ready to give advice and information to the Fellows and to others interested in horticulture. Since my last visit two years ago many improvements have been made; several old houses have been pulled down and new ones built on modern principles, and suitable for the work they have to do. When one comes to consider the steady increase of Fellows year by year—which I trust may continue—it is highly important that suitable structures be erected wherein the Superintendent can not only propagate but thoroughly establish a variety of rare and choice plants for distribution amongst the Fellows. The collection of Figs, which I was given to understand was unsurpassed, was looking exceedingly well, many of them being exceptionally good in quality, and of sufficient size to be of commercial value. Of the 150 varieties grown much could be said as to their respective merits for various purposes.

There was a large house of named and seedling Cannas, many of which were very good; and as I stood and admired the varying colours I thought of the great future in store for these useful plants, not only for conservatory decoration, but for bedding purposes, where their spikes of varied coloured flowers lend a sub-tropical appearance to any garden in which they are grown. In visiting one of the old-fashioned houses where Vines are grown I was struck with the results of a simple experiment of layering the old canes, which had been done to try and improve the condition of the Vines that were in a very unsatisfactory state. The reinvigoration of the old canes, the development of large leathery leaves, and the production of a fine crop of Grapes stamp the operation as satisfactory, and an experiment that can be safely adopted by others who have the charge of old and practically worn out canes. The large vinery, which is of world-wide reputation, is undergoing gradual renovation. The old canes are giving place to new rods that are allowed more air and light space, which will eventually have a telling effect on the cropping capacities.

During the last two years many improvements have taken place outside, amongst the most noticeable being the eradication of old and worthless varieties of hardy fruits, the thinning out and re-arrangement where they were growing too thickly together, and the planting of cordon Pears against a wall previously occupied by old and worthless trees. The extensive collection of *Rubus* looked remarkably well, especially the variety *Monarch*, which had leaves nearly 4 feet across, and leafstalks from 6 to 8 inches in circumference. The seedling Carnations sown in March, 1897, were one mass of bloom. At the time of my visit layering was being done with great care and rapidity. One other trial in respect to Onion cultivation, which proved to me most interesting, as it corroborated the results of similar experiments tried on a small scale by the writer. Twenty years ago it was thought that the only varieties of Onions suitable for autumn sowing were the *Tripolis* and *Giant Rocca*, and that if any of the varieties recommended for spring sowing were sown in the autumn they would be a complete failure. This

theory has since been proved to be wrong. At the present time (August, 1898) one may see in the R.H.S. gardens at Chiswick such varieties as *Ailsa Craig* and *Rousham Park Hero* sown both in the autumn and in the spring, and the results undoubtedly prove that these varieties are equally as good for autumn sowing as the *Tripolis* or *Giant Rocca*, and there is no doubt but they will prove to be much better keepers. From my own observation I considered the autumn-sown yielded a larger percentage of better shaped bulbs than the spring-sown seed of the varieties especially recommended for spring sowing. The Superintendent found that whether sown in autumn or spring they were liable to be attacked by the Onion maggot.

After lunch I wended my way to the famous Kew Gardens, where I spent a profitable hour. To describe all the interesting things I saw would be an impossibility, but to mention a few of the more important might prove of some interest to your readers. On inquiry I found that the Thames water is used for watering the flower beds, whilst for the pot plants rain water is invariably employed. Where staking of trees and shrubs is necessary I observed that a piece of indiarubber is used to prevent the string cutting through the bark, and not the old sacking, which is not only unsightly, but harbours many pests. In walking from the entrance towards the greenhouses I noticed fine plants of *Polygonum laniferum*, *Diervilla Eva Rathke*, *Exochorda Alberti*, and *Styrax japonica*. In the Orchid houses were some fine plants of *Galeandra Batemanni*, *Catasetum Russellianum*, *Aërides multiflorum*, *Lælia xanthina*, *Cattleya Warscewiczii*, *Phaius Humbloti*, *Disa grandiflora*, *Cattleya Rex*, *Cattleya Loddigesi*, *Epidendrum nemorale*, *Oncidium Gardneri*, *Mormodes pardinum*, and *Grammatophyllum Rumphianum* in flower. Amongst other plants which greatly interested me were *Ipomæa Leari*, *Nymphæas*, *Hedychiums*, *Nelumbium speciosum*, the flowering *Victoria regia*, the fruiting *Momordica Charantia*, the flowering *Eucomis punctata* and *Solanum pensile*, *Solanum Warscewiczii*, *Roscoeæ purpureum*, and *Crinum Powelli*. On the third day of my holidays I left the busy metropolis early in the morning to spend a few days amongst the men of Kent, with what results I will relate in another issue.—S. H.

(To be continued.)

ARUM LILIES.

IN the summer management of Arum Lilies there are two distinct methods practised with equally good results by practical cultivators. One method consists in retaining the plants in their flowering pots throughout the summer, shaking out and repotting them during August or early September when the old leaves have died down and before new growth advances far. The other method is that of placing out the plants in June in shallow enriched trenches on an open piece of ground. The plants grow freely and are lifted and potted before frosts occur. For securing very strong and vigorous plants the latter is, perhaps, the better, though it usually requires the use of larger pots than is sometimes necessary or advisable for certain purposes.

When it is requisite to grow Arum Lilies in comparatively small pots, say 6 to 8 inches across, I prefer to keep the plants in the pots all summer, affording them sufficient but reduced supplies of water until the foliage turns yellow and dies away. Prepare similar sized pots to those in which the plants have been grown, crock them sparingly, but efficiently, covering the drainage with rough manure, leaves, or fibrous pieces of turf, and sprinkle over a dash of soot, which will help to keep out the worms. The compost may be loam three parts, decomposed manure one part, with coarse sand, burnt refuse, or crushed charcoal added. Turn the plants out of their pots, take away the drainage, and reduce the ball of roots and soil. If there is more than one crown, division ought to be carried out. Place each division in the size of pot most convenient, and so that a fair amount of fresh compost can be worked round it, making it fairly firm. Syringe the newly potted plants for a few days, and then give a copious watering. The pots should stand on a moist base in the open air, where they may remain until it is time to house them.

Arum Lilies that were placed out in trenches in June will, during the early part of September, if they have been liberally treated with water in dry periods, be ready for lifting and potting. It is a good plan prior to potting to run the spade round each plant or clump of crowns a week or two beforehand. This gives them a preliminary check, and the plants do not seem to feel the reduction of the roots, which must inevitably take place, quite so much. The size of the pots employed must be judged by the size of the clumps. Drain them as previously advised, and also have in readiness some fresh compost, but very little is usually needed. After cutting round the clumps with a sharp spade they may be lifted with a fork. The further reduction of the roots can be accomplished with a large sharp knife, taking plenty off the base, so that the ball can be placed low enough in the pot. It can be finally adjusted in position by jarring the pot carefully on its lower edge.

Stand the plants in the shade for a few days, but give a liberal watering at once to wash the soil among the roots. As soon as the plants are recovering from the effects of the shift place them in full sunshine. See afterwards that none of them suffers for want of water. Let all remain outdoors enjoying the night dews and the rains until frosts at night are imminent, when protection must be afforded, or they ought to be finally housed, preferably in a cool house close to the glass.

Some of these plants may throw up flower stems early, when they should be assisted by weak liquid manure, and a slightly higher temperature to develop. No plants, however, ought to be fed before flower spikes show.—E. D. S.

GRAPES AT FOREST HILL.

IN the metropolitan district, from few gardens have, during the past seven years, come finer bunches of Grapes than from that of C. Bayer, Esq., of Forest Hill. Some time since, meeting that gentleman's gardener, Mr. W. Taylor, in the Drill Hall, he kindly gave me an invitation to call at Tewkesbury Lodge in the autumn to see the Grapes. Mr. Taylor had felt a little aggrieved at insinuations thrown out that he permitted his Vines to carry only a very few bunches each, that he might get from them such fine examples, and desired independent testimony. I got to Forest Hill on the afternoon of the 26th inst. It was my first visit, the district being new to me.

I found Tewkesbury Lodge, situated at almost the summit of a very steep hill, and placed so high that the elevation afforded some of the grandest views to be found around London. The gardens are on a steep slope, making working in them very arduous, and the vineries, though not quite at the apex of the gigantic mound on which the grounds stand, are considerably higher than is the mansion. Certainly if light and air have anything to do with Grape culture, then the position is indeed the place to furnish such desiderata. Over on to the yet upper side of the hill, and especially on the more westerly aspect looking towards London, is some wild ground on which there are huge breadths of Brambles fruiting with wonderful abundance, and showing how much lofty elevations conduce to fruitfulness. Amidst these bushes run grass walks, and from this spot the view of the great metropolis and for many miles round is probably unequalled anywhere. The hill is a mass of exceedingly stiff clay, with here and there veins of gravel. Fruit trees seem to do well upon it, as those growing in all directions are very healthy, though, as elsewhere, none too heavily cropped. But whilst things so elevated are not suffering more than those lower down from drought, rain is badly needed; the Lime trees especially, as is so commonly the case, are shedding leaves fast.

The Vines I found in a span house in two divisions; the whole is 75 feet by 25 feet, and of moderate height. The Vine borders are inside, and are each about 11 feet wide. There is yet in the centre 3 feet of space which can be filled with fresh soil as needed. The present walls retaining the soil are of turf; very moderate extensions of about 12 inches have been made yearly. The Vines were planted by Mr. J. Bury nine years since, when the houses were built. Each section contains sixteen rods, eight on each side, thus allowing ample room, yet judging by the strong growths and foliage made not an inch too much. The borders were made chiefly of turf taken from the clay soils of the meadow beyond the vinery, consequently it is very stiff. To temper its stiffness some burnt clay, of which a quantity is produced on the place yearly, is added, also some wood ashes or old mortar rubbish, if obtainable. Foreign loam is far too costly to be used other than for choice pot plants. Mr. Taylor, it is interesting to learn, uses no special manures. "That paper by Mr. Hall of Wye College, published in the R.H.S. Journal," he remarked "opened my eyes, and I resolved to purchase materials at prime cost from the manufacturers." Hence his dressings are composed of superphosphate of lime, sulphate of ammonia, magnesia, and nitrate of potash. These materials proportionately mixed are applied during the swelling season once a week, at the rate of 3 ozs. per square yard, well washing in with liberal waterings. What the effect of this treatment, together with a light mulching of stable manure, is, may be seen in the splendid fruit crop and luxuriant leafage. Liquid manure from stables in the stiff soil here does not conduce to colouring.

One section, that most southerly, is chiefly devoted to Muscat of Alexandria, the whole of the south-east side, and four rods on the western side, being of that variety. The rods are each about 15 feet from the lower wire to the ridge, and each is carrying twelve splendid bunches. Some of these range from 5 lbs. to 6 lbs., and are of perfect form. The berries are fine and clean, but needing some four to six weeks to enable them fully to colour. The finest bunches are on the south-west side. Probably the average weight would be about 4 lbs. per bunch. This statement will show that there is of these Muscats a very considerable range of selection for exhibition. Other Vines in this house are Alnwick Seedling, carrying fine bunches richly coloured; Trebbiano, very fine clusters, the largest weighing from 6 lbs. to 9 lbs., there being in all about 40 lbs. of Grapes on a rod; and Mrs. Pearson carrying a dozen fine clusters, generally of very handsome form, but here the berries show as they finish a tendency to become somewhat discoloured. This variety will probably be replaced by another more suitable to the soil. On a wire arch grown as a supernumerary is White Gradiska, the berries are very transparent, but quite devoid of flavour.

It is worthy of notice that the lower stems of each Vine, usually left bare, carry laterals quite to the ground. That is the case with all the Vines, and it is held that such growths, though not carrying fruit yet, conduce materially to strengthen the Vines. The second section is, in all but varieties, a counterpart of the first. Here are five Alicante rods on the south-east side, each carrying twelve superb clusters of Grapes, already black. Not a few of the bunches have such stout short stems that they berry above and all round the laterals. Then comes a rod of Gros Guillaume carrying thirteen large clusters, and two Gros Colmans, each having also thirteen bunches, very fine indeed in bunch and berry. The end Vine, however, though having greater light, does not colour its berries so rapidly as does its fellow a few feet further down the house. There is, in connection with the end Gros Colman, an odd addition, for, prior to Mr. Bury leaving Tewkesbury Lodge, some four years ago, since when the place has been controlled by Mr. Taylor, he planted between the two end Vines a Foster's Seedling Vine, and when it was strong, inarched its

top into the stem of the end Gros Colman. It was thought that such additional aid would assist the permanent Vine. Really the effect seems to be adverse. This little Vine carries several bunches each year.

On the other side the Vines comprise Black Hamburgh, Buckland Sweetwater, Madresfield Court, Lady Downe's, Gros Maroc, and one rod, brought through from the other division, of Mrs. Pince. This is not, however, a satisfactory Grape here. Gros Maroc carried on its one rod fifteen fine bunches. Every variety excepting Mrs. Pince does well, and each rod is carrying a superb crop of fine bunches. The entire house presents a sight such as any Grape-grower may well be proud of. Mr. Bayer, who is an enthusiast in Grapes, has every reason to be proud of the contents of these moderate-sized vineries. Few Grape-growers, near London at least, have taken more prizes during the past four years than has Mr. Taylor, and his success is the product of hard personal labour and the keenest and most watchful attention. If Mr. J. Bury so admirably planted, his former foreman has ably continued the work began, and it looks as if a long time must elapse ere the Tewkesbury Lodge Vines are exhausted.

More recently, and in a line with the vineries, there has been erected a 90 feet length of span house, of the same width, the two first divisions of which, each 30 feet long, are planted with Peaches and Nectarines against cross trellises on each side border. These are about 6 feet apart, and the intervening space is utilised by fine pot trees, of which there are a large number in 12-inch and 14-inch pots. These comprise Peaches, Nectarines, Plums, Cherries, Apricots, Pears, Apples, and Figs. They seem to like the very stiff loam in which they grow. The potting is done each autumn, the balls of soil being reduced to enable pots of the same dimensions to be used. The Peach and Nectarine trees planted out in the two sections now nearly done fruiting, are very robust, and seem to like the Forest Hill clay. They include Early Rivers, Dryden, Advance, Stanwick Elruge, Humboldt, Pineapple, and Lord Napier Nectarines, and Hale's Early, Alexander, Rivers' Early York, Crimson Galande, Gladstone, Princess of Wales, Royal George, and Gros Mignonne Peaches, so that the range of season and variety is considerable.

A third section of this range is an orchard house, and is in the season fully occupied also with pot trees. An old range of glass, including a lean-to vinery, in which there is a good crop of fruit, and a Peach house having old trees on the front and back, is soon to be pulled down and a superior range erected in its place.—A. D.

CALADIUM CULTURE.

OF the many stove plants now cultivated for the beauty or gracefulness of their foliage, few excel the different species and varieties of Caladium, and the majority of these being of tolerably easy cultivation, they are very generally grown. Still a few remarks suggestive of the mode of treatment required may be acceptable to some of our readers.

Supposing it is spring and the plants have awakened from their winter's slumber refreshed and invigorated, the rhizomes or rootstocks plump and fresh, and just beginning to emit roots, then is the time to have them turned out of the pots in which they have been wintered, and either divided into small pieces with two or three crowns to each, or retained whole according to the wishes or requirements of the cultivator. Pots from 3 to 5 inches in diameter, according to the variety or the size of the rhizome to be introduced, are large enough to use for the first potting. Crock such well, as good drainage is indispensable from the first. A compost of two parts loam, one of peat, one of leaf mould, one of decayed sheep or cow manure, with a liberal addition of silver sand, well incorporated and passed through an inch sieve, is a good soil to start Caladiums in. In potting, place the rhizome low enough so that it can be covered with half an inch of soil.

After potting place the pots in a gentle bottom heat, where an atmospheric temperature suitable for the majority of stove plants can be maintained. Give enough water to moisten all the soil, but not to saturate it. In a few days the roots will have reached the sides and bottoms of the pots, while the upper portions of the plants will only have appeared above the soil. When one or two leaves appear on the plants it is a good time to shift these into larger pots, using soil of a similar nature to that previously employed, but in a rougher state. After this potting bottom heat can be well dispensed with and the plants placed in the stove. Shading from bright sun is highly necessary.

As the plants grow, some of them can be repeatedly shifted into larger pots, with a view to forming large specimens, or several may be placed round a large pot at the second potting for the same end; but if such be intended for exhibition, the chance is that the pot may be excluded on the ground of its containing a plurality of plants.

Few plants delight more in an abundant supply of water at the roots; and such must be unsparingly given, otherwise all hopes will be blighted. I have sometimes found it necessary to have a saucer containing water for the pots to stand in. When the pots have become full of roots weak liquid manure may be applied with benefit twice a week. An abundant supply of moisture must also be maintained in the surrounding atmosphere by wetting the paths and stages, or by means of evaporating troughs or other appliances. A little soot or guano mixed with the water in the trough will help to enrich the atmosphere, and act as a stimulant to Caladiums and most other stove plants. Most practical men are agreed that a humid atmosphere moderately impregnated with ammoniacal gases is one of the best preventives against the appearance and increase of parasitical insects in heated structures.

The most inveterate insect enemy to Caladiums is the green fly, which

can be kept under by cautious and judicious fumigations, or by the administration of an infusion of quassia chips of the strength of 3 or 4 ozs. to the gallon of water; the plants being dipped into the solution, or this being applied with the syringe. Any of the advertised insecticides are equally efficacious, and are easily applied.

Perhaps the greatest difficulty experienced by those who grow Caladiums is in the keeping of the rhizomes in a fresh state during winter. Their proneness to decay is generally acknowledged, and considerable difference of opinion prevails amongst practical men on this important point. One maintains that the soil in the pots should be kept moist, another maintains that it ought to be kept dust dry, while a third party thinks a lower temperature than that kept up in the stove will prove beneficial by insuring a more perfect state of rest, as assuredly it will, and that more lasting than desirable. In my opinion more Caladiums are lost during winter from being imperfectly ripened in autumn than from all other causes, excluding, of course, a low temperature.

The gradual withdrawal of water when the earliest leaves attain a yellowish tint will help greatly to hasten the ripening process. Keep the plants in the warmest part of the house, so as to compensate for declining solar heat, and, finally, when the leaves have all withered, place the pots on their sides on the floor of the house. The moisture supplied by the floor and the atmosphere will be enough to satisfy all demands till the middle of February or beginning of March.

To recapitulate—the principal points to be attended to for the successful cultivation of Caladiums are rich soil, potting loosely, giving abundance of water occasionally manured, shading from bright sunshine, and keeping the rhizomes in a stove temperature during the winter.—J. A.

THE WEST INDIA GRANT.

HOW THE MONEY WILL BE SPENT.

I HAD an interesting talk an afternoon or two ago with Dr. Morris, the gentleman whom the Government has just appointed to be the head of the Agricultural Department to be established in the West Indies. Upon the success of this venture will largely depend the future of those delightful islands which stud the Carribean Sea, like so many gems over an area which stretches through seven degrees of latitude. The bounty-fed sugars of France and Germany have nearly ruined the industry upon which they have mainly depended for generations. It will be the business of the new office to do what it can to improve the cultivation of the cane when only cane can be profitably grown, and to promote the development of a hundred other resources which undoubtedly exist, but for one reason and another have hitherto been largely neglected.

To do this the House of Commons has just voted a grant of £17,000 a year, which Dr. Morris will administer; and a further £10,000 a year to subsidise a special line of steamers for trading amongst the islands. It is obviously a big business, the progress of which will be closely watched; in the islands themselves by whites and blacks; in England, which owns them, finds the money, and has plenty more if a decent interest on its gold is forthcoming; in America, which has been pushing trade with them for a long time.

The new scheme, then, is the direct outcome of the Commission which Mr. Chamberlain sent out to investigate the condition of our oldest colonies, and the man who is appointed to work it out sails in a few weeks to begin his arduous duties. It was concerning these that he talked in his office at Kew Gardens, of which he has been the assistant director for twelve years. Most of those who visit our famous gardens think of them only as pleasure grounds, but as a matter of fact it is the centre to which those who cultivate the soil in all parts of the world come or send for advice. It will easily be understood, then, why one of its heads is going out as the chief of the new department. Nor are the West Indies new ground to him. Dr. Morris, after serving in the Ceylon Gardens, where he conducted a long inquiry into the ravages of the disease which threatened to destroy the Coffee plant, went to take charge of the Gardens at Jamaica, and afterwards came to Kew. He accompanied the West Indian Commission as expert, and is now returning to put his advice into practice.

With this little introduction I will repeat the gist of what he told me as to his immediate operations, and the organisation which he is preparing. It is not often that a man has a field for an experiment of such far-reaching importance. But he expresses every confidence in the results which will follow in a few years' time. Let it be quite understood that it is not to bolster up the sugar, but the development of new industries which the infinite prodigality of Nature has made possible, that is the main object of the mission. In the first place Dr. Morris will establish his headquarters at Barbadoes, which he calls the Clapham Junction of the West Indies, by reason of the number of inter-island steamboats which call there. From this convenient base he will be able to journey from one island to the other with the least delay, forming as they do a chain, the component parts of which are divided by intervals of sea, varying from 20 to 100 miles across. Let us now give in precise detail the exact duties which the department will set itself to perform. They will be as follows:—

THE WORK OF THE DEPARTMENT.

- 1, To supervise and extend the work of the present botanic stations.
- 2, To start industrial schools for training boys in agricultural pursuits.
- 3, To encourage the theoretical (and to some slight extent the practical) teaching of agriculture in elementary schools.

4, To promote the teaching of scientific agriculture in colleges and schools.

5, To organise horticultural shows and exhibitions of implements and machinery suitable for cultivating and curing tropical products.

6, To prepare bulletins, leaflets, and other literature on subjects suitable for cultivation in the West Indies.

So much for the skeleton scheme, the bones and fabric as it were. Now to enter into details:—

THE WORK OF THE BOTANIC STATIONS.

These are already in existence on a good many islands. It is proposed to extend the work which they are at present doing. They are to devote themselves in a systematic manner to the work of introducing, propagating, and distributing all the promising economic plants of the tropics; they are to initiate the experimental cultivation of new or little known plants, and assist in the efforts made in the larger colonies to secure improved varieties of the sugar cane. They are to act as centres for diffusing accurate information, and as training institutions for the practical teaching of tropical agriculture; also as the headquarters from which agricultural instructors could be sent to give lectures and demonstrations bearing upon the selection of land for tropical economic plants, their suitable cultivation, and the best methods for curing and packing the produce.

Such, roughly, then, is the outline of Dr. Morris's work. It must be understood that blacks as well as whites are to participate in the benefits which may arise from the work of the new department. Their numbers are vastly in excess of the whites, and it is to their efforts largely that we must look for the future prosperity of the islands. It will be the business of Dr. Morris's instructors to help them to help themselves. They will be taught how to get the most out of their patches of ground; they will be told what produce it is best fitted for; seeds and plants will be given or sold to them. This will all be a slow business, and Dr. Morris says plainly that the experiment must take ten years before we shall see its full result. We may repeat here a few of Dr. Morris's figures, showing the number of plants distributed in Dominica, for example, during six years:—

1891	...	...	9,000 plants.	1894	...	...	30,000 plants.
1892	...	...	17,000 "	1895	...	...	36,000 "
1893	...	...	22,000 "	1896	...	...	42,000 "

These are, of course, all economic plants. The great demand has been for Liberian Coffee, of which over 75,000 plants have been sent out. The others were chiefly Limes, Cacao, Oranges, Kola, Nutmegs, and Vanilla. The cost of a Cacao plant in a pot is a farthing, of Coffee plants less than a farthing, whilst Nutmegs cost 1d. The distribution of seeds was also large, no less than 2233 Cacao pods of good varieties, capable of yielding 44,660 plants, having been sent out to local planters in three years. At present the most flourishing industry is the production of lime juice; and yet fifty years ago it exported 6,000,000 lbs. of coffee in one year. These are suggestive figures. To-day the people are emigrating to Cayenne and Venezuela, and those who remain are in immediate need of assistance.

The working of the Government's scheme is well illustrated by Dr. Morris's plan for dealing with it when he reaches the Islands. Dominica, he thinks, may be saved by establishing at once a trade in Bananas and other fruit with New York. He proposes to employ two agricultural instructors at the Botanic Station, to have six students, and start an industrial school for training twenty-five boys. The result, says the Doctor, will soon show itself. And the cost is interesting, as it gives an idea of how the grant is to be spent.

Curator	...	...	...	...	...	...	£200
Two agricultural instructors at £150	...	...	...	...	...	...	300
Travelling allowances	...	...	...	...	...	...	80
Foremen	...	...	...	...	...	...	130
Twelve labourers, £15	...	...	...	...	...	...	180
Six students, £10	...	...	...	...	...	...	60
Tools and manure	...	...	...	...	...	...	50
							£1,000
Industrial school	...	...	...	...	...	...	500
Total	...	...	...	...	...	...	£1,500

The following figures give the totals:—

Head office	...	...	...	...	...	...	£2,200
Nine botanic stations and four industrial schools	...	...	...	...	...	...	9,700
Sugar-cane experiments at British Guiana	...	...	...	...	...	...	1,000
Horticultural show, exhibition of implements	...	...	...	...	...	...	500
Literature	...	...	...	...	...	...	500
Elementary school teaching and school garden	...	...	...	...	...	...	500
Colleges and schools for teaching scientific agriculture	...	...	...	...	...	...	2,600
Total	...	...	...	...	...	...	£17,000

One of the greatest difficulties which has hitherto stood in the way of the small cultivator has been the absence of markets. It is to help him to ship his produce, fruit, or whatever it may be, the moment it is ready, that the subsidy for the establishment of a special line of coasting steamers has been granted. And the masters of these must not only carry but buy. The sugar mills, which are to be erected with borrowed money, of which the Government guarantees the interest, scarcely comes within Dr. Morris's province; and for the present it is too early to discuss the proposed purchase of estates upon which to place small proprietors.

A heavy burden of responsibility obviously rests on the head of the new office, which will require steady plodding, indifference to difficulties, and opposition, and restless energy. The sugar planters are still crying loudly for bounty or duty as the only hope for the West Indies. *Apropos*, we may quote a few lines from Mr. Frank, writing particularly of Jamaica:—

"The real want in the island was of intelligent Englishmen to employ and direct them (the blacks), and Englishmen were going away so fast that they feared there would soon be none of them left. . . . The English cast in their lot with sugar, and if sugar is depressed, they lose heart. Americans keep 'their eyes skinned,' as they call it, to look out for openings. They have discovered that there 'are dollars in Jamaica,' and one has come and set up a trade in Plantains, in which he is making a fortune; and this gentleman has perceived that there were 'dollars in the Bamboo.' He bought machines to clear the fibre, tried to make ropes of it, to make canvas, paper, and I know not what. At last he hit upon a use for it. The Bamboo fibre has certain elastic incompressible properties in which it is without a rival. He presses it into 'packing' for the boxes of the wheels of railway carriages, where it holds oil like a sponge, never hardens, and never wears out."

Those who are fearful of scientific methods of putting a country on to its legs again may be referred to this list of West Indian products, which economic botanical departments have introduced within a hundred years:—Ginger, Nutmeg, Clove, black Pepper, Guinea Grass, Sago Palm, Bourbon cane, Coffee, Mango, Logwood, Cinnamon, Bamboo, Camphor tree, Orange, Lime, Citron, Yam, Cacao, Shaddock, Lemon, and ever so many more.—("Daily News.")

A PLEA FOR THE LACHENALIA.

IT would probably be an error to treat the *Lachenalia* as a neglected plant, and yet it is questionable whether it is grown so extensively as its merits deserve. As greenhouse bulbous plants, easy of cultivation, readily increased, and accommodating alike to gardener and amateur, no family possesses higher recommendations. There are numerous varieties more or less useful for greenhouse culture, some of which are well adapted for forcing, while with others the best results are obtained by subjecting them to cool treatment.

In adding up the sum total of the qualifications of *Lachenalias*, one important item should not be overlooked—viz., the ease with which they may be increased. Practical uselessness after blooming, or a tendency to deteriorate, are characteristics of many bulbous-rooted plants, and these, no doubt, have the effect of preventing many growers from having such a collection as they would wish for. *Lachenalias* are increased readily from seeds or offsets, and when once a start has been made no difficulty may be experienced in keeping up and annually adding to the stock, and the bright flowers and pleasing habit of the plants will never fail to be acceptable for the embellishment of greenhouse and conservatory.

Lachenalias do not lend themselves readily to hard forcing, and when root and leaf growth have both developed themselves in the cool, a temperature of from 50° to 60° will soon push them into flower, after which they should be transferred to the conservatory, where they will last for a considerable time. Soil used for other bulbous plants is well suited for *Lachenalias*, though a full mixture of sand should be given; 5 and 6-inch pots are the best, both for the welfare of the plants, and also for convenience in decorative work, and after potting they may be placed in a frame or plunged in ashes in a situation where they may be kept safe from hard frost. When growth asserts itself, the plants should be

removed to the light in a cool greenhouse, and allowed to progress gently, or be subject to mild forcing as stated above.

Considerable care and attention is necessary after blooming is over, in order that good bulbs may be obtained for the following season. As long as the foliage remains green, water must be regularly supplied, discontinuing the operation gradually as the foliage dies away, until it is suspended altogether. The bulbs may be allowed to remain in the pots or be shaken out and stored till again required for use. Under ordinary circumstances the former method is the better, and when the bulbs are shaken out for repotting, it will be found that numerous offsets have been formed which, though not large enough probably for flowering the next season, will, if carefully treated, serve that purpose when the bulbs have developed. All such offsets should be removed and placed closely together in pots, the same treatment being given as in the case of flowering bulbs, with the exception that when growth commences cold frame treatment is suitable and conducive to the development of the bulbs.

As with many other plants the satisfaction derived from the culture of *Lachenalias* depends very much on the selection of varieties. To give long lists is to mystify by numbers, therefore I shall enumerate a few of the best. Perhaps first and foremost should be placed *Lachenalia Nelsoni*, a fine yellow sort of robust habit and striking flowers. The colour is so pleasing, and the blooming propensities so profuse, that this variety recommends itself to gardeners who have to provide large quantities of flower as much as to amateurs who may only have a primitive greenhouse at their command. It is also a fairly good forcer, and among others suitable for this purpose are *L. quadricolor* and *L. tricolor*, the former of which is a pleasing mixture of orange, yellow, and red, and the latter red and yellow with suffusions of green. *Lachenalia pendula* has a graceful weeping habit with flowers of red and yellow, and *L. tigrina* is white. The beauty of *Lachenalias* is considerably enhanced by the peculiar drooping habit of the foliage, and by methodical treatment the blooming may be extended over a long period. In these brief remarks there is no intention of treating these plants as new and unknown. On the other hand they belong to the commonplace, and, as with other easily grown plants, perhaps this is the reason why they are apt to be overlooked.—H.

[For the excellent illustration of *L. Nelsoni* (fig. 32) we are indebted to the courtesy of Messrs. Sutton & Sons, Reading.]



FIG. 32.—LACHENALIA NELSONI.

KINGSWOOD SHOW.—AUGUST 24TH.

THE Kingswood and West Gloucestershire Society once more well upheld its reputation. There was a slight falling off in the number of exhibits in some of the more important classes; but no shortcomings would have been observable if those who had entered a considerable number of plants had not withdrawn after it was too late to make fresh arrangements. Messrs. F. H. Jullion and A. W. Cottle are the Honorary Secretaries, and thanks to their experience and courtesy everything went smoothly and well.

The principal class was that for sixteen stove and greenhouse plants, of which ten were to be in flower. As usual, Mr. J. Cypher, Cheltenham, was easily first, his collection comprising fine specimens of *Ericas* *Austiniana*, *Aitoniana*, *æmula*, and *ampullacea* *Barnesi*; *Ixoras* *Duffi* and *Williamsi*, *Statice* *profusa* and *intermedia*, *Allamanda nobilis*, *Kentias* *Forsteriana* and *Belmoreana*, *Latania borbonica*, and *Crotons* *angustifolium* and *Chelsoni*. Mr. W. Vause, Leamington, was a creditable second, and Messrs. E. S. Cole & Son, Bath, third.

The class for groups arranged for effect on a space not exceeding

100 square feet was also open, and four competed. Mr. J. Cypher had a very beautiful and light arrangement, the background being formed with a handsome *Cocos Weddelliana*, *Humeas*, *Fuchsias*, and *Asparagus*, with two principal front mounds of *Humea elegans*, *Dendrobium formosum*, *Dendrobium phalaenopsis*, *Oncidium Krameri*, *Cattleya Gaskelliana*, *Odontoglossums*, neat little *Crotons*, and the like. Mr. W. Vause was second; Messrs. R. Palmer & Sons, Staple Hill, Bristol, third; and Messrs. E. S. Cole & Sons fourth. The best eight exotic Ferns were shown by Mr. G. Tucker, Trowbridge, who staged grand specimens. Messrs. Palmer & Son were a good second; and Mr. W. Rye, gardener to Captain Belfield, Frenchay, a close third. Prizewinners with plants in other open classes were Messrs. W. J. Mould, S. Tucker, G. Tucker, F. Moon, D. Jefferies, and E. W. Towers, gardener to Mrs. G. Coles.

In the amateurs' tent, the classes arranged in which were open to all but trade growers, the falling off with large plants somewhat marred the effect. The silver cup offered for six stove and greenhouse plants in bloom was easily gained by Mr. W. Rye, who staged large, well-flowered specimens of *Bougainvillea glabra*, *Stephanotis floribunda*, *Allamanda nobilis*, *Ixora Regina*, and *Statice profusa*. Mr. E. W. Towers was second. Another 6 guinea cup was also won by Mr. Rye, this time for six Ferns. Mrs. Palmer, Staple Hill, was second, and Mr. E. W. Towers third. For fine-foliaged plants, Mr. Rye was easily first, and Mr. E. W. Towers second. *Fuchsias* were not numerous, but those winning first and second prizes, shown respectively by Messrs. Tucker and W. J. Mould, were handsome. *Begonias* in pots were good, and with these the principal prizewinners were Messrs. G. Cornish, gardener to F. J. Tarr, Esq.; J. Rogers, J. Newman, and R. Denton, gardener to the Rev. Yorke Fausset. Equally well grown were the *Gloxinias*, and with these Mr. E. A. Jones, Staple Hill, was first, and Mr. G. Tucker second. Zonal *Pelargoniums*, *Petunias*, and *Coleuses* were fine, the prizes going to Messrs. W. J. Mould, E. W. Towers, J. Bainton, gardener to D. Jefferies, Esq.; J. Bensley, and T. Haskins.

Roses, as shown by Dr. Budd, Bath, Messrs. A. A. Walters, Bath, and T. Hobbs, Easton, were remarkably fresh and good. Messrs. G. Humphries, Chippenham; W. Treseder, Cardiff; J. Burgess, Kingswood; T. Hobbs, and J. Hendy were the prizewinners in various classes for Dahlias. The Bath growers, Messrs. Vickery and F. Hooper, had the best *Asters*. Mr. W. Smith, Kingwood, exhibited exceptionally good *Hollyhocks*, and was easily first, also showing well in other classes for cut flowers. Messrs. Rogers and J. B. Blackmore were most successful with *Begonia* blooms, and Mr. King, Frenchay, showed the best *Carnations* and *Picotees*. Messrs. Cypher, W. Treseder, W. H. Coles, and E. S. Cole & Son were successful with floral decorations. The ladies' classes for table decorations were a great feature. No less than ten competed in each of the two classes provided, and there was not a poor arrangement among them. Mrs. G. Sutton, Miss M. Cole, Mrs. T. Trenfield, Miss F. Bush, Mrs. Lascelles, Mrs. Hardiman, and Miss D. E. B. King were the principal prizewinners.

An excellent display of fruit was made. Four competed in the class for eight varieties, the first prize, a silver cup value 6 guineas, going to Mr. W. Strugnell, gardener to Col. Drexel, Rood Ashton, Trowbridge, who showed beautifully ripened Muscat of Alexandria and good Alnwick seedling Grapes, Sutton's Triumph Melon, highly coloured Bellegarde Peaches, and Pineapple Nectarines, good Hemskerke Apricots, Governor Wood Cherries, Washington Plums, and small second crop Figs. The second prize went to Mr. W. Allen, gardener to W. Marsh, Esq., Bath, and the third to Mr. G. Pymm, gardener to Mrs. Gouldsmith, Trowbridge. Mr. Strugnell was first and Mr. Allen second in another class for a collection of fruit. In the class for black Grapes Mr. T. Wilkinson, gardener to the Rev. T. Greaves, Stoke Bishop, gained a first for large clusters, whose only fault was the smallness of the berries; second, Mr. Fewtrell, gardener to C. C. Tudway, Esq., Wells. For any white variety, Mr. Marshall, gardener to J. Dole, Esq., Clifton, was first with good Buckland Sweetwater; second, Mr. Wilkinson, who staged Muscat of Alexandria a little deficient in colour; third, Mr. A. Cross, gardener to H. O. Wills, Esq. Other fruits were well represented, and the principal prizewinners were Messrs. R. Palmer, E. Hall, G. Garraway, A. J. Bridges, B. Jefferies, and A. Cross. In the local classes much good fruit was shown by Messrs. Rye; S. Bryant, gardener to Dr. C. J. Perrott; J. Bainton, C. Rogers, W. E. Wookey, H. T. Coles, and S. Peacock.

Vegetables were both numerous and well shown, and the principal prizewinners with these were Messrs. G. Garraway, J. B. Woods & Son, F. Moon, G. Hall, J. Bainton, W. Priddle, W. Britton, G. Powell, E. A. Jones, R. King, S. Bright, C. King, and W. Bateman.

THE YOUNG GARDENERS' DOMAIN.

EARLY AND LATE PEAS.

I SEE an article in the "Young Gardeners' Domain" of August 11th on the above subject, concerning which I feel constrained to send a few notes.

"T. P." states that a dish of Autocrat Peas was gathered from the open in the first week of November, which he is pleased to call a record, and that had the weather been sufficiently warm they would have been enabled to gather Peas much later, and further, that the 1st of June is an early date to start gathering Peas out of doors. This is undoubtedly a feat which many gardeners fail to accomplish, and credit should be accorded to those who do succeed. However, I can inform "T. P." that while under Mr. A. Bishop at Westley Hall, Bury St. Edmunds, we gathered Peas on the 18th of May, and the supply was maintained until the 12th of November from the open. The variety cropping in November was the old Ne Plus Ultra.—FIRST JOURNEYMAN.

THE VIOLET.

THE cultivation of Violets being somewhat imperfectly understood by many members of the Domain, the time is opportune for a few notes on the subject. The frames they are intended to occupy are mostly filled with Cucumbers and Melons until the end of August, and these having been removed, the lights are washed, the old soil levelled, and the whole bed raised to within about 6 inches of the glass with turfy loam, to which a sixth part of half-decayed leaf mould has been added.

The first week in September the plants are lifted from the open ground each with a good ball of soil, planted 1 foot apart each way in the frames, and given water. The lights, unless a few extra early blooms are required, must not be put on until frost is imminent, unless heavy rains occur, when it will be best to ward them off, removing the lights again whenever it is safe to do so. Violets will not stand coddling, therefore abundance of fresh air should be admitted on all favourable occasions: a stagnant atmosphere is conducive to damping. An apparently trivial, yet in reality an important point, is to frequently stir the surface of the soil with a stick, as this not only tends to keep down moss, but encourages growth by maintaining the soil underneath in a moist condition.

Watering must be performed on the morning of a bright day, using tepid water applied from the spout of a small waterpot between the rows of plants in sufficient quantity to soak the whole of the soil down to the roots. It is most important that water shall not be sprinkled on the leafage. Plenty of protecting material ought to be close at hand for utilisation at night when needful, while, during a spell of very severe weather this may be left on day and night, and removed only for the purpose of gathering the flowers. Given careful attention to ventilating and covering up, a good supply of blooms may be maintained from October to the end of March. Suitable varieties are Marie Louise, Neapolitan (blue), Comte de Brazza (double white), and Rawson's White (single).

The old plants are lifted at the end of March, and propagation can be effected in two ways—cuttings or division; the former are made in the usual way, while the latter are detached with a few roots, and they can be dibbled closely together near the glass in a frame, and kept close and moist. When rooted they must be gradually hardened and finally planted 1 foot apart on a well manured border, where attention to watering and hoeing must be given during the summer. All runners are kept closely picked off, the result being stocky plants for placing in the frames when the time again arrives.—T. P.



HARDY FRUIT GARDEN.

Outdoor Figs.—If regular attention has previously been given to Fig trees on walls, there will be little required now beyond reducing or removing superfluous growths and securing a fair number of young shoots in suitable positions. Leave them, however, unshortened, and do not allow overcrowding. The admission of sun and air freely to the trees is of great importance, both for the ripening of the fruit and for the proper maturation of the current season's growths, these bearing the crop next season. Dry weather prevailing, the application of moisture to the roots, followed by a mulching, will be serviceable.

Outdoor Vines.—Plenty of water and liquid manure from the farmyard will largely assist Vines in perfecting a good crop. It is advisable to limit the number of bunches to one only on a lateral, and the berries should, if possible, be freely thinned on each bunch. The whole of the lateral growth should be securely tied-in and stopped, so that there is a free circulation of light and air, which will ripen the current year's wood and perfect the fruit. Room must be found for a few strong young canes to extend in suitable positions, the object being to cut out a few exhausted branches, and train in their places some vigorous substitutes.

Late Peaches and Nectarines.—Every assistance ought to be rendered these by watering, feeding, and mulching. The growths, too, must be constantly regulated and secured, so that they may become ripened. Do not allow the fruits to be unduly shaded, but draw the leaves on one side to prevent this. Some protection should be afforded to fruits as they advance to ripening. Wasps and flies soon disfigure the fruits, but their attacks may be prevented by enclosing each in muslin or gauze bags.

Plums.—Similar assistance may be accorded ripening Plums, though the fruits cannot be enclosed singly, but very small mesh netting will assist in keeping away wasps and other winged insects. Reduce the foreright shoots on wall trees, and lay in suitable young growths where possible without crowding.

Apples and Pears.—The earliest varieties of Apples and Pears ought to be gathered as soon as they part easily from the trees. In many cases Apples are falling prematurely from the trees owing to the presence of the maggot in the fruit. All the fallen fruit should be promptly gathered and used at once; those that are useless buried deeply. Continue to water and feed choice bush and cordon trees bearing good crops. Thin out the smallest fruits of late varieties.

Gooseberries.—Now that all the fruit has been gathered from Gooseberry bushes, it is advisable to thin out the growths and form the bushes

into shapely specimens. This may be carried out better now for the welfare of the bushes than when the foliage has fallen. The chief advantage is the wood becomes well ripened, and little or no pruning is required in winter. Cut out the crowded rank growths situated in any part of the trees. Branches descending to and touching the ground may especially be dispensed with. Gross growths and partially exhausted wood may be freely removed. vigorous Gooseberry bushes producing abundant growth in one season, so that weak and otherwise unsuitable wood need not be preserved. A little regulation given now to young bushes will serve to balance the growth and improve the shape. Remove gross shoots entirely.

Currants.—The chief requirements of Black Currants at the present time are abundant moisture and food for the roots. These demands may be best met by copious waterings of clear water and liquid manure, as well as a liberal mulching of manure. Exhausted growths may be pruned away, giving room for a moderate number of vigorous young shoots allowed to extend without stopping.

Red and White Currants need the side shoots reduced to three pairs of leaves, and suckers from the base removed. Where a fresh branch is required a vigorous basal shoot may be retained in a suitable position, and encouraged to extend. Net the trees over if fruit is hanging for late purposes. Supply the roots well with water, and give a mulch to retain the moisture. The fibrous roots of Currant bushes have a limited root area, and depend largely on moisture and rich food to produce the growth which will give satisfactory results.

Raspberries.—The fruiting canes of Raspberries ought now to be cut out. A selection of the young strong canes of the current year may be made, removing the weakest, but retaining four to six of the best at each stool. Raspberries being surface and fibrous-rooting, enjoy rich mulchings of manure almost at any season. The present is a good time to give an application, following with copious supplies of water should the weather remain dry. The benefits derived by the roots will be transferred to the canes, and stored in the buds situated in the axils of the present season's foliage.

Strawberries—Young rooted Strawberry plants, whether in pots or in the open, intended for early planting, must be kept duly supplied with water in dry weather.

FRUIT FORCING.

Vines.—*Early Forced in Pots.*—The Vines for starting in November must not be allowed to become dust-dry at the roots, but incline to the dry side; there must be no excess of moisture. They will now be at rest, the wood ripe, the laterals cut close home, and the canes shortened to about 6 feet, more or less, according to the situation of the plump eyes. The Vines should be kept in a cool place. Where canes have to be bought in, orders should now be placed.

Earliest Forced House.—It is not necessary to wait until all the leaves are down before pruning matured Vines for early forcing, but the wood must be brown and hard, and the leaves turning yellow. The pruning will cause the Vines to rest quickly and thoroughly. If in good condition they will afford bunches quite large enough when pruned to a couple of buds from the base, but if the Vines are weak from heavy cropping or a long course of forcing the spur shoots may be left a little longer with a view to larger bunches. It is important that the house and Vines be thoroughly cleansed. Take every precautionary measure, cleansing the woodwork with carbolic soap, "Lifebuoy" being excellent, and the glass with clear water. Vines, especially early forced, cannot have too much light. Scald and limewash the walls. Wash the Vines, after removing any loose bark without recourse to close peeling or hard scraping, with a solution of 1 oz. each of 98 per cent. caustic soda and ordinary commercial potash to a gallon of water, applying with a brush. It destroys hibernating red spider and the eggs of scale insects, and has a prejudicial effect on the spores of fungi.

Any Vines in a weakly state may be improved by removing the soil down to the roots, and substituting fresh loam, with an admixture of mortar rubbish, wood ashes, charcoal, and crushed half-inch bones. Lift any roots that can well be done, laying them in fresh compost, and covering with about 3 inches depth. If long and bare notch them here and there, with the straight or transverse cut next the Vine stem. This will give numerous fibres, and the growth will improve in consequence. We have known this simple procedure to not only give the Vines a new lease of life, but prevent shanking to a great extent, the Grapes being much better in colour, size, and finish. The operation is best performed before the leaves fall, and over the whole extent of the border occupied by the roots. It is a great mistake to allow Vines to become very dry at the roots. Comparative dryness is desirable, yet great injury is caused by allowing the soil to be dust-dry. Excessive moisture, on the other hand, causes loss of fibres, hence the practice of using spare-lights over outside borders during very wet weather from this time is excellent practice.

Late Houses.—The Vines have had a grand time of late in some places, not in all, for thunderstorms have been somewhat erratic; but where prevalent outside borders have been well moistened, and a genial atmosphere, with abundance of light and heat, present. These conditions are what Grapes require in the late stages of swelling, and because they often do not get them into the house the roots of the Vines are usually more abundant, and often of greater service in outside borders than in those under glass. The roots must not lack water, nor a genial atmosphere not be provided for the tops of the Vines, for the Grapes swell considerably when ripening, and unless they finish plump they can hardly be expected to keep sound. Besides, Muscats and the keeping Grapes are a long time in ripening, and require copious supplies of water at that period. They ought not to become dry at the roots, even when the fruit is ripe.

Grapes well advanced in ripening may have the atmospheric moisture reduced by freer ventilation, admitting a little air constantly, increasing it early on fine days, and by judicious early reduction of the ventilation the most can be made of sun heat. This is, after all, the best agent in ripening Grapes, and moderate moisture will not injure, but benefit the Vines, and assist the fruit in swelling. Whatever watering is necessary should be given in the early part of a fine day, and with air the superfluous moisture will soon be dissipated, the moisture produced having no deleterious effects, provided the atmosphere is kept in motion by ventilation and, if need be, a gentle warmth in the pipes. A day temperature of 70° to 75° is necessary by artificial means, falling 5° to 10° at night, but turning on the heat early in the morning, so as to aid the sun heat, and with alternating cloud and sunshine secure a day temperature of 80° to 85°, and 90° to 95° on clear days. Keep the laterals well stopped and thinned, thereby admitting as much light as possible to Muscats and other white Grapes, but black Grapes are better with a good even spread of foliage, yet without crowding the leaves, and there must not be a large reduction of foliage at a time, as that might accelerate shanking, whilst frequent pinchings will not produce any appreciable check, but concentrate the forces on the perfection of the crop.

Young Vines.—When the canes have made strong growth and are to be cut down to three plump buds from the bottom of the trellis to furnish a leader and side shoots, one on each side of the rod, another season, and to be grown in that way so as to produce the first crop in the third season, they may be allowed to grow as long as they like, taking the precaution to keep the principal leaves that correspond to the pruning buds free of spray, so that that part of the cane may get thoroughly ripened. Vines, however, which are intended to do something more than prove the variety next year should have further growth discouraged by the removal of the laterals as they appear, taking care to leave some growth as an outlet for the sap, otherwise the pruning buds may be started, and next year's prospects jeopardised. By this time the cane will be getting brown and hard, and the laterals may be gradually removed, cutting them back in the first instance to one joint, and in the course of a fortnight they may be cut away close to the cane, provided they have not pushed fresh growth. If, however, they start the buds on the laterals the growths must be pinched at the first leaf, and the removal of the laterals deferred to a later period.

THE BEE-KEEPER.

INTRODUCING YOUNG QUEENS.

THE majority of bee-keepers recognise the importance of raising young queens. We are of the opinion that the best queens are raised in strong colonies, and if previous instructions have been carried out there will now be numerous young fertilised queens in an ordinary apiary waiting to be introduced to colonies which have been kept for honey production during the past season. The uninitiated may say, Why remove the queen that has done such good service? We replace her with a young prolific queen, because she will be at her best next year, whereas the old one will deteriorate, and instead of the hive being crowded with bees next spring they will be few in numbers. There are exceptions to the above rule, as we have had queens until they were three years old, still it is not advisable to keep them more than two years, unless there is some special reason for doing so.

DIRECT INTRODUCTION.

Many bee-keepers are not sanguine of the success of direct introduction, for the simple reason they have never tried the plan; or if they have tried it, they have failed because they did not go about it in the right manner. To succeed in queen introduction it is necessary to first remove the old queen from the stock to be operated on, otherwise it will end in failure. During the middle of a fine day, when the weather is warm and many of the bees are on the wing, go to the hive in which is the old queen, remove the coverings, and have the smoker conveniently to hand in case the bees should be troublesome. Lift the frames one by one out of the hive until the queen is found, and then put her in a box with a few worker bees in a warm place. In case of a mishap with the young queen the old one can be returned if this plan be adopted. Place the frames in the hive in the same position they originally occupied, not disturbing the bees more than is necessary.

Allow them to remain queenless until evening. Go next to the hive in which is the young queen, and put her in a small box quite alone, this being kept in a warm place until evening. In handling the queen care must be taken that she is not injured. As late as convenient take a light and the young queen to the stock to which she is to be introduced, lift a corner of the quilt, and drive the bees down between the frames, open the box, and allow the queen to run quietly down, replace the quilt and coverings, and do not examine the stock for a couple of days. After that period the queen will be found marching over the combs as if she never knew any other home. If the bees are short of stores it is an advantage to feed them.

CAGING QUEENS.

The plan adopted in the movable frame hive is to cage the young queen in one of the many cages recommended for that purpose. They are all good if space is allowed for the queen being fed. It is, however, quite unnecessary to go to any expense in purchasing a queen cage, as all that is necessary is a piece of perforated zinc about 6 inches square. It should have the edges turned down about half an inch. This will form a box without a lid, which is put over the queen and pressed firmly into the comb. Place the frame in the middle of the hive and replace the quilt, and cover warmly, but do not liberate the queen for at least forty-eight hours. When the proper time has elapsed remove the quilt from the hive, and with a little smoke drive the bees down between the frames. Draw the frames well back, so that those on which the queen is caged can be readily lifted out of the hive. Remove the cage and allow the queen to run at will over the comb. If the bees do not molest her replace the frames and coverings and all will be well. If, however, the bees attack her cage her again for another twenty-four hours, when she may be liberated.—AN ENGLISH BEE-KEEPER.



All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Exhibiting Plants (J. I. K.).—As your Vallotas have been passed on two previous occasions we see no objection to their inclusion again. In the absence of any specific wording in the schedule such points as these are entirely in the hands of the judges, who may, or may not, consider disqualification necessary.

Gros Colman Grapes Splitting (L. J. P.).—The chief cause of the berries splitting is a deficiency in the soil and atmospheric moisture in the stages of swelling, and then too much nutrition at the roots. This gorges the berries, and they crack at the weaker part. Afford free ventilation, a little constantly, so as to induce evaporation and prevent the deposition of moisture on the berries during the night. Water or liquid nutriment should only be given at the roots of the Vines, to prevent the foliage becoming limp. The chief things, however, are—give abundance of air, and maintain a circulation constantly. The Grapes, so far as we can determine by two rubbed berries of each variety, are White Frontignan, the white round berries, or rather yellowish with amber spots; and Ingram's Prolific Muscat, the black oval berries.

Orchids for a Small Greenhouse (H. U. H.).—The following are six of the most easily grown Orchids in cultivation, and each one is a good useful species worthy to be included in the best collections. *Cœlogyne cristata*, a beautiful species producing white flowers in graceful racemes. Pot in peat and sphagnum, and water freely all the year round. *Odontoglossum grande*, a splendid Orchid of easy culture in peat and moss. It produces large yellow and brown flowers of great beauty. *Cymbidium Lowianum* is a handsome Orchid with yellowish-brown flowers and bright maroon lips. It lasts a very long time in good condition, and thrives in equal parts of peat fibre, loam, and chopped sphagnum. *Lycaste Skinneri* likes a similar compost, and is a beautiful species, variable in colour, but usually a soft rose with deep crimson lip. *Odontoglossum maculatum* is the easiest grown of all in the genus; the flowers vary in colour, yellowish and brown usually. It thrives with *O. grande*. *Cypripedium insigne* is only one of a most useful genus, easily grown for flowering, and lasting well in good condition. We have grown all these

species and many more for years in a cool fernery, carefully shaded, and kept as moist as possible during the winter. Cultural notes on these have often appeared in the pages of the *Journal of Horticulture*.

Nutritive Components of Peas and Beans (A Subscriber).—The composition of Peas is given by Prof. Church in "Food" as follows:—

	In 100 parts.	In 1 lb. oz. gr.
Water	14.3	2 126
Albuminoids, &c.	22.4	3 255
Starch, &c.	51.3	8 92
Fat	2.5	0 175
Cellulose	6.5	1 17
Mineral matter... ..	3.0	0 210

The nutrient ratio, 1 : 2½; the nutrient value, 79. Those of Beans are not given, they not being used as food of man; but of Haricot, which is the variety usually eaten as food, as follows:—

	In 100 parts.	In 1 lb. oz. gr.
Water	14.0	2 105
Albuminoids, &c.	23.0	3 297
Starch, &c.	52.3	8 161
Fat	2.3	0 161
Cellulose	5.5	0 385
Mineral matter... ..	2.9	0 203

The nutrient ratio is here 1 : 2½; the nutrient value is 80. The Broad or Windsor Bean is, when young, an agreeable and wholesome food; so also are the pods of the Scarlet Runner Bean, and of the Dwarf or French Bean, which, when gathered in the best condition for use, contain "91.8 per cent. of water, 0.64 per cent. of mineral matter, and 2.05 of albuminoids, calculated from the total nitrogen; in reality this proportion should be halved if the percentage of true albuminoids is desired."

Cucumber Growths Blind and Fruit Curling (W. S. & Co.).—The sample of soil and worms indicate a sodden and sour condition at the roots, sufficient to account for the state of the plants and fruit. It appears little better than soapy manure, almost destitute of grit, and still more of calcareous matter, partly due, in closeness, to the action of the red worms (*Lubricus foetidus*), which convert it into a semi-fluid mass. The sour state may be, to some extent, rectified by the use of sulphate of lime or gypsum, but it will be necessary to first get rid of the worms. This may be effected by the use of lime water, a peck of freshly burned lime being placed in a tub, slaked and mixed with 30 gallons of water. Then, let stand not less than twenty-four hours, the clear water may be used for killing or expelling the worms, but it is better when left four days or a week. You can afterwards use the gypsum 4 ozs. to a gallon of water. As time is all-important you may apply corrosive sublimate, 1 oz. finely pulverised, dissolved in hot water, using about a gallon in a wooden vessel, and after allowing to stand overnight, dilute to 30 gallons, agitating well. This will kill, when applied to the soil, or bring the worms to the surface, and these must not be given to fowls or placed where they can reach them, or they will be poisoned. Indeed corrosive sublimate is a terrible poison, and must be used with the greatest care. The Cucumber plants, however, we fear are too far gone to make much out at this advanced period of the season. The soil in future should contain more opening material, such as old mortar rubbish and gritty matter, with less manure.

Examples in Fruit Growing (Somerset).—Your desire to obtain instruction for your "local people" in the cultivation of fruit is highly commendable, and your suggestion to bring them in contact with object lessons, such as are to be found in well-appointed private gardens and commercial establishments, is not the less good by not being novel. Such teaching is given under the auspices of some County Councils, and has already proved of considerable value. It must be remembered, however, that if the pupils you have in view are wholly inexperienced, they first require easy and simple lessons, in order that they may be the better able to comprehend the significance of what they will see in establishments in which the cultivation of the different kinds of fruits is "thoroughly and systematically carried out." Most inexperienced people would be as much bewildered as instructed by a visit to such establishments, and therefore we are convinced by experience that it is better to start in a more modest way. There is scarcely a garden, however small, that contains a fair representation of fruits, from which highly useful information cannot be obtained on right and wrong methods of procedure. It should be particularly remembered that such visits as you have in view can be of no real benefit in the absence of a guide and teacher who thoroughly understands the subject of fruit culture in its various details, and who can explain with clearness what his pupils are desired to understand. If you can provide such teacher, the benefits accruing will be tenfold over what may result from a mere march past, as so much that could not otherwise be understood would be demonstrated. What you propose is really educational work, that can only, as a rule, be properly carried out in a series of lessons, under the auspices of public authorities, such as County Councils. Most of these important bodies teach something appropriate to the districts, and it would be difficult to imagine any subject more useful than that of the profitable cultivation of the soil by fruit and other forms of cultivation. A visit to a fruit tree nursery under expert guidance forms a good foundation for such teaching as you have in view, but you seem rather inclined to begin at the top instead of the bottom. The visit you have in view might, perhaps have a stimulating effect on some minds, and there, we suspect, its advantages would end. A youth or man cannot become an engineer by looking at and admiring an example of perfected machinery.

Double Petunia Flowers Splashed and Spotted with Deep Green (E. C.).—It is not unusual for Petunias, especially the double of the colours you name—white splashed with purple maroon—to come with a considerable amount of green in the corolla, which is probably due to excessive vigour, the flower reverting to the green colour of the leaf. Grow the plants in plenty of light, with abundance of air, and not excessively amounts of nutrition or water, and they will soon return to the normal form. Such, at least, has been our experience.

Camphora officinalis Leaves Unhealthy (T. C. S.).—The Camphor leaves are more or less coated on the upper surface by a black soot-like deposit, and from this spring the conidia-bearing hyphæ of the black mould fungus, *Fumago vagans*. The cause of the mischief is a scale insect (*Lecanium hesperidum*), which affixes itself to the under side of the leaves by the midrib, and sucks the juices of the Camphor plant, and excretes a gummy substance. This pest must be destroyed. It is best done whilst young and soft with a pointed piece of hard wood, as it adheres closely to the midrib, or it may be killed by touching each with the stick, holding at its end the least possible amount of methylated spirit. These are tedious processes, but effectual, afterwards washing with one of the approved advertised insecticides, so as to thoroughly cleanse the foliage. Remove the cause and the effects will disappear.

Cypripedium insigne Growths Coming White (Tooting).—The whiteness is due to the suppression of the chlorophyll, but the green colouring pigment is not entirely absent, being merely disguised by the whiteness, which is a sort of parasitism living at the expense of the green parts, hence the mottling. It is considered to be due to a chemical agency, certain elements being deficient in the compost which are essential to the development of the chlorophyll. Loam from red soils has been found to cause the plants to return to the green state, and so also has the grass turf from moorland districts which are more or less impregnated with salts of iron. But nitrogen also has something to do with the whiteness, as a little thoroughly decayed cow manure makes a difference in the colour, and also still more soot; but the latter, of course, contains many elements, and some of the most important as regards chlorophyll development. We should use soot water, quite clear, for watering the plants, not more than a quart of soot to 20 gallons of water, and allowing to stand for about a week before use, after mixing and stirring daily for five or six days. Salts of iron and magnesia are also useful, equal proportions of sulphate of iron and sulphate of magnesia being used in mixture in the proportion of 1 oz. of the mixture to 6½ gallons of soft water. The plants usually grow out of the whiteness.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (*Valgarth*)—Your specimens are not thoroughly representative ones, and we have not yet identified them. We will examine them again, and give a further reply in our next issue. (*D. S.*)—1, Lady Henniker; 2, Beauty of Bath. The Pear is Citron des Carmes. (*T. E. C.*)—1, Fearn's Pippin; 2, Early White Transparent; 3, Gloria Mundi; 4, Peasgood's Nonesuch. (*Foremm*).—It is impossible to name the Plums; you should have sent examples of the summer growth with each variety. (*C. G. T.*)—1, Duchess of Oldenburg; 2, Irish Peach; 3, Devonshire Quarrenden; 4, Kerry Pippin; 5, Manks Codlin; 6, Mère de Ménage.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*D. W. H.*)—1, Montbretia Pottsi; 2, a Lantana, of which the varietal name, if it has had one, could only be determined by comparison. (*P. C. J.*)—1, Solanum robustum; 2, Plumbago capensis; 3, a good variety of the ordinary bedding Pentstemon. (*W. E. R.*)—*Gypsophila paniculata*. (*W. J. R.*)—1, Achillea ptarmica, fl. pl.; 2, Rudbeckia nitida; 3, Harpalium rigidum Miss Mellich; 4, dead; 5, Sphecozyne speciosa. (*D. S.*)—1, Adiantum concinnum; 2, 3, and 4, Crotons, that can only be named by comparison in a large collection; 5, Stachys lanata; 6, Erica Cavendishiana. (*W. T.*)—The grass you send is Koeleria phleoides.

TRADE CATALOGUES RECEIVED.

J. Carter & Co., Holborn.—*Bulbs.*
F. Dickson & Co., 66, Deansgate, Manchester.—*Bulbs.*
Laing & Mather, Kelso-on-Tweed.—*Carnations.*
J. Russell, Richmond.—*Flower Roots.*
B. Soddy, 243, Walworth Road, London.—*Bulbs.*
A. F. Upstone, Rotherham.—*Bulbs.*

COVENT GARDEN MARKET.—AUGUST 31ST.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, ½ sieve ...	0 0	0 0	Grapes, lb. ...	1 6	to 3 0
Cobs ...	0 0	0 0	Lemons, case ...	11 0	14 0
Filberts, 100 lbs. ...	0 0	0 0	St. Michael's Pines, each	2 6	5 0
Gooseberries, ½ sieve ...	1 6	2 0	Strawberries ...	1 6	3 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0 0	to 0 0	Mustard and Cress, punnet	0 2	to 0 4
Beans, ½ sieve ...	0 0	0 0	Onions, bushel ...	3 6	4 0
Beet, Red, doz. ...	1 0	0 0	Parsley, doz. bnchs. ...	2 0	3 0
Carrots, bunch ...	0 3	0 4	Parsnips, doz. ...	1 0	0 0
Cauliflowers, doz. ...	2 0	3 0	Potatoes, cwt. ...	2 0	4 0
Celery, bundle ...	1 0	0 0	Salsafy, bundle ...	1 0	0 0
Coleworts, doz. bnchs. ...	2 0	4 0	Scorzonera, bundle ...	1 6	0 0
Cucumbers ...	0 4	0 8	Seakale, basket ...	1 6	1 0
Endive, doz. ...	1 3	1 6	Shallots, lb. ...	0 3	0 0
Herbs, bunch ...	0 3	0 0	Spinach, pad ...	0 0	0 0
Leeks, bunch ...	0 2	0 0	Sprouts, ½ sieve ...	1 6	1 9
Lettuce, doz. ...	1 3	0 0	Tomatoes, lb. ...	0 4	0 9
Mushrooms, lb. ...	0 6	8	Turnips, bunch ...	0 3	0 4

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch ...	2 0	to 3 0	Mignonette, doz. bnchs. ...	1 6	to 3 0
Bouvardias, bunch ...	0 6	0 9	Myosotis, doz. bnchs. ...	1 0	2 0
Carnations, 12 blooms ...	1 0	3 0	Orchids, var., doz. blooms	1 6	9 0
„ 12 bnchs. ...	4 0	8 0	Pelargoniums, doz. bnchs.	3 0	6 0
Eucharis, doz. ...	2 0	3 0	Polyanthus, doz. bnchs. ...	1 0	1 6
Gardenias, doz. ...	1 0	2 0	Pyrethrum, doz. bnchs. ...	1 0	1 3
Geranium, scarlet, doz. bnchs. ...	4 0	6 0	Roses (indoor), doz. ...	0 6	1 6
Iris doz. bnchs. ...	4 0	6 0	„ Red, doz. ...	0 3	0 6
Lapageria (white) ...	1 6	2 0	„ Tea, white, doz. ...	1 0	2 0
„ (red) ...	1 0	1 3	„ Yellow, doz. (Perles)	1 0	2 0
Lilium longiflorum, 12 blms	4 0	5 0	„ Safrano (English) doz.	1 0	2 0
Lily of the Valley, 12 sprays	1 0	2 0	„ Pink, doz. ...	1 6	3 0
Maidenhair Fern, doz. bnchs. ...	4 0	8 0	„ Moss, per bunch ...	0 9	1 0
Marguerites, doz. bnchs.	1 6	2 6	Smilax, bunch ...	1 6	2 0
			Sweet Peas, doz. bnchs. ...	1 6	3 0

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6 0	to 36 0	Fuchsia ...	5 0	to 8 0
Aspidistra, doz. ...	18 0	36 0	Heliotrope, doz. ...	4 0	6 0
Aspidistra, specimen ...	5 0	10 6	Lilium Harris, doz. ...	12 0	18 0
Coleus, doz. ...	3 0	4 0	Lycopodiums, doz. ...	3 0	4 0
Dracæna, var., doz. ...	12 0	30 0	Marguerite Daisy, doz. ...	6 0	9 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	4 0	6 0
Erica various, doz. ...	12 0	24 0	Musk, doz. ...	2 0	6 0
Euonymus, var., doz. ...	6 0	18 0	Myrtles, doz. ...	6 0	9 0
Evergreens, var., doz. ...	4 0	18 0	Palms, in var., each ...	1 0	15 0
Ferns, var., doz. ...	4 0	18 0	„ specimens ...	21 0	63 0
„ small, 100 ...	4 0	8 0	Pelargoniums, scarlet, doz.	4 0	6 0
Ficus elastica, each ...	1 0	7 0	„ „	8 0	10 0
Foliage plants, var., each	1 0	5 0			



AN ADJUNCT TO BREAD.

“A CUP o' waarm tea and a bit o' butter and bread” form the panacea among cottage folk for all ills physical or mental. The tea is a pleasant warm fluid; the butter is often warm too, and not quite in the way desired. It is only when the shoe pinches that we dwell upon our corns, and it is only when we have been compelled by sorry circumstance to eat nasty butter that the subject comes home to us.

We have for years been fortunate in our dairymaid. For some time we had an old-fashioned woman who believed in no new

fangled plans, but whose motto was cleanliness in every detail. She welcomed with pleasure the advent of a butter worker, and now that she has a farm of her own that is the one utensil on which she has set her heart.

We are ever loth to consider bad butter is the result of an imperfectly trained dairymaid. Oh! no. In these days of technical instruction, when every village has had its working dairy, it cannot be the fault of the manipulator! The cows are possibly of the wrong sort, and the pasture is at fault. When Miss C—— was lecturing in these parts one old carrier woman made a knowing suggestion. "If Miss C—— would only look a back o' some dairy doors I know, and use her nose as well as eyes, she would not want to know why I take so much stinking butter to market." We heard as lately as last week of a dairymaid who only considered it necessary to wipe out her milk panchions with a damp (dirty) dishcloth before putting in the fresh milk, and this in the year A.D. 1898.

Complaints are often made to us of bad butter; we have not been asked to make personal investigations, we can only suggest causes. We will give a little account of a visit paid by an expert to a dairy where complaints had been made of unsatisfactory butter.

The dairy was that of a nobleman, who very properly supposed that as he provided every appliance, and engaged a gold medallist as a dairymaid, the dairy produce should be faultless. The herd was first investigated, and it was found to consist partly of Shorthorns and partly of Jersey cows, all in the best of health and condition. Then the pasture was carefully examined, to see if there might exist any obnoxious weed or herb—such as Tansy, Camomile, Wild Mint, Ragwort, Garlic Mustard, and Garlic. One or any of these, if eaten by the cows, would serve to taint the milk, and thus give an unpleasant flavour to the butter. But nothing of a deleterious nature was found. The herbage was in parts coarse and long, but quite sweet and wholesome.

The milking shed was next visited, and the first object that caught the eye and attracted the nose was a particularly nasty cloth. The milk pails were turned upside-down in a close stuffy corner, and were anything but savoury. The unpleasant cloth was all that was used, in conjunction with lukewarm water, for cleansing the pails. Imagine pails needed for thirty cows never properly scalded or sweetened in the sun and air! Could anything be more unwholesome?

A visit to the dairy followed next, and the place, though large, was most imperfectly ventilated. There was no through draught. Churning was just in process, and the expert was astonished to find that, sultry though the weather was, cream was only churned twice a week, and, in consequence, some of the cream, which was mixed haphazard with the fresh, was perfectly rotten. This was to save time and trouble; and the good lady in charge strongly objected to washing her butter more than once—water was so heavy to lift! The expert thought he need go no further; he had found more than cause for all the complaints, and his only wonder was that things had been allowed to drift so far.

We are of the opinion that if the master of an establishment took a quiet walk round on a Sunday afternoon, when all was still, and peered into holes and corners, he would make many curious discoveries, some of them not altogether pleasing. We were surprised to see, only the other day, in the dairy of a very clean woman, the churn carefully shut up, instead of being so turned as to allow of the free play of fresh air.

Nothing beats a wooden rack out of doors, in which milk-pancheons can be stood over end without danger of breakage, and pails fully exposed to every wind that blows. Often, too, the dairy is used as an extra larder where provisions are stored. The dairy should be the sweetest, coolest, cleanest room in the house. There is no other substance that will assimilate unpleasant flavours so quickly as milk. We prefer that no washing up whatever be done in the dairy. If the floor is of concrete, as it should be, it is easily cleaned, and should be kept perfectly dry. All dairy utensils after being scalded ought to be rubbed with salt and rinsed in spring water, and that spring water must be from a well above suspicion.

As long as there is a drop of buttermilk among the butter granules that butter is not fit for making up. Never mind the labour attendant on carrying a pail of water. No good work is done without labour, and no good, sound butter can be made if buttermilk lurks within.

It is sometimes a difficulty in winter to provide cows with sufficient bulk of food without using roots. If Turnips and Swedes are given it should be directly after milking, and it is as well to remove any green growth, which is sure to be more or less strong. The outside coarse leaves of the Cabbage must, for the same reason, be removed. Of course the supply of drinking water should be unlimited, and of the purest. Think of 87 per cent. of water in average milk, and then the necessity for good drinking water will be apparent.

WORK ON THE HOME FARM.

Being in the midst of harvest work there is little else to chronicle this week. Crops have ripened off very rapidly, Wheats almost too rapidly, and the grain will not be quite so well developed as we expected, and now everything that is not already laid low is ready for the reaper.

Weather has been favourable, for though we have had two heavy thunderstorms, calculated to immensely benefit root crops, they both occurred during the night, and were little or no hindrance to reaping operations. The greater part of the corn is down, and here and there we see a rick completed.

Wheats are very heavy in weight of straw, some fields appearing to be quite full of stooks, and reminding us of a farmer—now dead many years—who liked to hear his crops praised. This characteristic was discovered by some Irishmen whom he was employing to mow a very heavy crop of Wheat, and one day the men came, and with the gravest of faces complained that they had difficulty in finding room for the stooks. He was delighted, and was quite willing to solve the difficulty with beer.

Masters, as well as men, may get a valuable hint from the above little story, for it is quite as necessary for the farmer to humour his men at a busy time—when men are working very hard under a broiling sun, and working well. A little judicious commendation, with a pleasant word on every available occasion, does much to allay any feeling of irritation that may have begun to simmer in the bosom of even the best of men.

A cup of afternoon tea, or similar refreshment, once or twice sent out to the men, though not included in the bargain, and quite unexpected, will work wonders in keeping them in good humour under trying circumstances.

There is, however, one point in which it is very easy for an employer to be too good natured, and that is in allowing young children to stray promiscuously in the harvest field. When asked what their business is they generally reply that either they have brought father's dinner, or accompanied Tom Smith, who has been similarly attending on his parent. But when we consider that there is always the possibility of even the steadiest horses running away with a reaper, the danger of having a number of children in the field will be understood, and the farmer who allows their presence unrebuked cannot complain if he is held liable in case of an accident.

METEOROLOGICAL OBSERVATIONS.

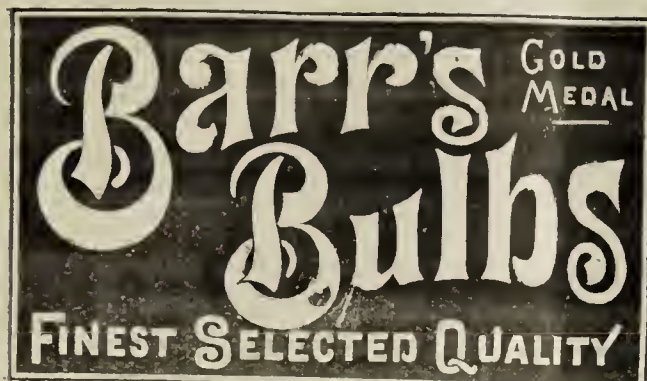
CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1898. August.		Barometer at 32°, and Sea Level	Hygrometer		Direc- tion of Wind.	Temp. of soil at 1 foot	Shade Tem. perature.		Radiation Tempera- ture		
			Dry.	Wet.			Max.	Min.	In Sun	On Grass	
		inches	deg.	deg.		deg.	deg.	deg.	deg.	deg.	inches.
Sunday	21	30.157	70.2	64.5	N.E.	66.2	81.8	59.8	119.3	54.1	—
Monday	22	30.034	68.2	65.3	E.	66.6	87.9	61.1	123.9	56.1	0.012
Tuesday	23	30.045	67.3	61.1	W.	66.7	81.0	60.2	124.4	56.3	—
Wednesday	24	30.186	61.1	53.1	N. W.	65.9	72.0	56.1	116.3	52.8	—
Thursday	25	30.259	61.2	54.1	N.E.	65.4	74.1	53.1	115.3	48.9	—
Friday	26	30.099	64.2	59.6	N.E.	64.9	73.9	50.1	108.9	46.1	—
Saturday	27	29.864	65.9	63.1	S.	65.0	70.9	61.5	98.1	59.2	0.069
		30.092	65.4	60.1		65.8	77.4	57.4	115.2	53.4	0.081

REMARKS.

21st.—Bright and warm with pleasant breeze, distant lightning in evening and night.
 22nd.—Overcast with large spots of rain till 10 A.M.; fog from 11 30 A.M., bright and hot after, slight shower at 9.20 P.M.
 23rd.—Overcast early, sun at 11.50 A.M. and generally in morning, but overcast and cloudy from 3 P.M.; fine night.
 24th.—Bright early and all day; fine night.
 25th.—Bright early and generally all day, some cloud in afternoon and evening.
 26th.—Fine early, sunny at times, cloudy all afternoon, and overcast night.
 27th.—Overcast with spots of rain and fresh breeze all morning, dull and overcast afternoon, rain at 5.15 P.M.
 Another fine week, but much cooler owing to the relatively low temperature of the last four days. Rain very trifling.—G. J. SYMONS.



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COTTAGE GARDENING; being an Essay to which the Royal Horticultural Society awarded Mr. W. EGERTON HUBBARD'S Prize, February 16th, 1870. By E. W. BADGER. Third Edition. Price 3d.; post free, 3½d.—**JOURNAL OF HORTICULTURE OFFICE**, 12, MITRE COURT CHAMBERS, FLEET STREET, E.C.

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Journal of Horticulture.

THURSDAY, SEPTEMBER 8, 1898.

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TOMATO CULTURE.

IF the cultivation of the Tomato had improved at the same ratio that its consumption has increased during the last twenty years, we should indeed be good growers at the present day. But it has not; and well as this important crop is grown in many places, there are many others where it is a disgrace to otherwise well-managed gardens. If a gardener regularly cropped his Peach trees under glass at about half what the latter are capable of, he would probably not suit the majority of employers. In most cases these are cropped far too heavily. But look, on the other hand, at Tomatoes, a crop that comes out annually, that nothing in the way of overcropping can harm, and what do we find?

Some may feel inclined to disagree with me when I say that in the majority of private gardens the Tomato produces about half what it may do if properly treated; but I am convinced that it is so, and I have not come to that conclusion without seeing what is done in many of the best gardens in the kingdom, and noting the difference between first-rate culture, and the culture of the mediocre kind that so largely obtains.

Yet the Tomato is one of the easiest of all crops to grow, if only a little common sense and observation is brought to bear upon it. It is not that we as gardeners are ignorant of what is required by the plant. Its culture has been too often described and its peculiarities noted for this to be the case; but Tomatoes do fairly well with so little care and attention, and give a fair crop under such adverse circumstances, that we are all apt to let its culture slide—to cultivate the rare and expensive Orchid, the showy Lily, or what not with great assiduity, but Tomatoes—well, "anybody can grow Tomatoes," and little care is bestowed upon them.

The market grower who has to make his living out of them would soon go wrong if he practised such methods as are every day to be seen in gardens of some pretension, and one of the worst of all errors is perhaps the treatment of the plants up to the time of planting out. What at first appears the easiest way is not so in reality, and care

in sowing the seeds is well repaid by the labour saved later. Some may say that the time spent in dibbling seeds separately could not be afforded when much of it has to be handled, but this is one of the mistaken notions. If it pays on a small scale, it will pay much better on a large one without a doubt.

Again, with regard to giving fresh soil annually. In a large market garden in the East of England the oft-advised plan of clearing out every bit of old soil annually has been carried out each season until the present, with the result that the crops have always been heavy and good. But this season, for reasons unavoidable, a portion of new soil only was dug into the borders in several long span-roofed houses, with the result that, though plenty of fruit formed, owing to the plants being well treated in the earlier stages, a large proportion of the plants have gone off with the troublesome drooping disease, while a far greater percentage of fruit than usual is "spotted."

During the last six years I have never had a single plant "droop," and the percentage of diseased fruits has been very low indeed—almost entirely confined, in fact, to plants that have been grown in vineries, Peach houses, or some makeshift position rather than in a house devoted entirely to this crop; and the atmospheric conditions required by Tomatoes render it necessary for the best culture that they should be grown alone, or at least that any other crop grown must be subordinate to them. A brief *résumé* of their culture as practised may be of interest to amateur growers, or to any that are not entirely successful with this useful crop.

The seeds are dibbled in an inch apart in pans or boxes, the time of course depending on when the fruit is required. A good time for the general crop indoors is about the middle of February, and earlier or later sowings may be made according to requirements. Have the soil firm, and cover the seeds about a quarter of an inch. One soaking of water applied before sowing will keep the soil moist until the plants appear. A night temperature of 55° to 60° is the most suitable for raising the seeds, and as soon as the seedlings are visible place the pans in a light and warm position where the young plants will get abundance of air.

This will keep them short and sturdy, and the slower they grow in the earlier stages the better. By the time they are in the rough leaf the stems ought not to be much more than an inch high if they have been properly treated, and as they are that distance apart each little plant will lift with a certain amount of soil adhering to the roots. Pot them singly in 60's, and make the soil about them as firm as possible with the thumbs, but without using a potting stick. Give a thorough soaking of water at a little higher temperature than that of the house, and if the weather is very bright shade with a few sheets of newspaper until they are established; also keep the house a little closer and more moist.

The compost used at this first potting is not required very strong; rather give a light make up with plenty of burnt garden refuse or other gritty material. In this the roots run freely, and the little plants must now be kept with their heads close up to the glass and all the air possible allowed. If the house is ready for their reception there is no advantage in potting the plants again, but it is better to repot into 5-inch pots than to allow the young plants to get root-bound and hard. Such plants are difficult to start growing, and it is much better to wait a week or two longer before sowing the seed than to let the young plants be starved or to have the extra work of giving another shift.

There is no need to give a great depth of soil at first; it is far better to plant in about 3 inches, and add to this at frequent intervals afterwards, than to give a foot or so of sometimes loose material for the roots to run in. Nor must the soil be rich; equal parts of loam and ordinary kitchen garden soil, with a very liberal addition of burnt refuse, such as hedge clippings, leaves, and garden rubbish of all kinds, is quite good enough. Ram this in as firmly as possible, whether it is on the floor of the house in boxes or on stages, and if the plants are coming from the small pots referred to, give only enough to just cover the ball of soil.

Use a blunt potting stick when planting, and again ram the soil

very firmly about them. The first bunch of fruit blossom will usually be showing by the time the pots are full of roots, and a few days after planting the flowers begin to open. A dry buoyant atmosphere must be maintained in the house, and while the fruit is setting the plants are not the worse for being a little dry at the roots. When the sun is shining full on them I like to see a slight flagging, but this must not be overdone of course.

With a pencil or small stick tap the bunch of flowers daily to disperse the pollen, and when one bunch on each plant is set—which should occur from 6 inches to 9 inches from the soil—begin to give a little more moisture. After this the rest is easy. Keep the laterals pinched out and take the single stem up. Feed liberally when plenty of fruit is set. After attention consists in lightly thinning the bunches of fruit and supporting them where likely to break. Always maintain a fresh and fairly dry atmosphere, and see that the light can play freely about the fruit, thinning the foliage a little when this is necessary, but not taking all the leaves off, as is sometimes done. Top-dress the border frequently with rich soil, and use such manures as show a good percentage of potash.—H. R. RICHARDS.

PREPARING FOR AUTUMN.

"FROST comes like a thief in the night" is a telling sentence, which enterprising business men turn to good account in their advertisements. It also contains a truism, which cautious gardeners know well should be kept constantly in mind during the next few weeks. Although we usually consider that the majority of plants are safe in the open air till the third week in September, still it is necessary to be "up and doing" in the matter of getting everything ready, so that the housing of plants may be conducted with expedition when the time arrives for doing it.

Callas, which are usually grown in considerable numbers in both nurseries and private gardens, are a class of plant which require early attention, as they are often injured by a few degrees of frost, when "Geraniums" in similar positions are untouched. It has of late become an almost universal practice to plant Callas out during the summer months, and if lifted now, and placed in a shady position in the open air for a couple of weeks before being taken into the houses, they quickly recover from the check they invariably receive in being potted, as during the operation the roots have generally to be considerably curtailed to get them into pots of the right size. When a house can be devoted entirely to Callas this early potting is not of so much consequence, as the house can be kept close, and the plants well syringed for a time; but it often happens that Callas have to be placed in houses occupied by plants which require abundant ventilation, and in such instances the advantage gained by having Callas established before being placed in such airy structures must be apparent to all.

When a house can be devoted entirely to Callas, and is not likely to be wanted for other purposes till the time arrives for planting them in the open air again, it is a capital plan to do without pots. The plants can be simply lifted, placed on the floor, bed, or stage with a little soil placed round the roots. The advantage of this practice is that nearly all roots can be preserved, the plants feel scarcely any check, and will usually flower much more freely than when grown in pots. When this plan of action is settled upon, it is of course not necessary to lift the plants from the open ground until there is danger from frost.

Large plants of Marguerites are much better for supplying cut flowers than small ones, and at all seasons there seems to be a demand for white Marguerites in a cut state. For supplying these during the summer months the system of having a goodly number planted in the open air is largely adopted. In this way grand plants are produced which if properly handled will continue flowering throughout the autumn and winter. The secret of success in the matter is to lift the plants early and get them established in pots before they are housed. We have about fifty plants, varying from 2 to 3 feet in diameter. A week ago a spade was thrust into the soil around each, about 9 inches from the stem, and in the course of a few days I hope to have them potted and placed in a shady position; then with a little syringing during bright weather, and proper attention in watering, they may be relied upon to scarcely lose a leaf, and continue flowering with hardly any break. In this way beautiful specimens 3 or 4 feet in diameter, profusely flowered, may be obtained by the November Chrysanthemum shows, when they would make a bold display, even if staged beside well-grown specimens of the "Queen of Autumn." Cuttings put in now will make nice plants in 5-inch pots by May next, a season of the year when they are always largely in demand.

In places where the planting in the open air during the summer months of plants intended for winter flowering is followed, many kinds, such as Eupatoriums, Bouvardias, Heliotropes and Solanums, will require to be taken up and potted at once; the majority of them will succeed under the same conditions as enumerated for Marguerites. It is wise, however, to follow a different course with Heliotropes, as they are so quickly injured by the slightest frost. To make them safe they ought to be placed in cold pits; then, if kept rather close and shaded for a couple of weeks, they will quickly establish themselves and begin their work of autumn flowering.

Another matter which needs speedy attention is that of completing the insertion of "Geranium" cuttings while they are yet untouched by frost. Rooting the cuttings in pots or boxes placed in full sunshine in the open air, is a good plan to pursue earlier in the season, but those inserted now ought to be placed where some means of protection against sudden frosts is provided. Cool pits or frames answer the purpose very well, but I prefer to place them in houses in which slight heat is provided in the hot-water pipes each night, as the cuttings at the present season are often soft and liable to damp off when placed in unheated structures. At one time I used to be wonderfully anxious to get the propagation of "Geraniums" completed by the first week in September, as I found that under ordinary conditions among those inserted later a considerable percentage failed, but since adopting the practice of setting the cuttings in houses in which a rather dry heat is maintained, they root with certainty, not more than 5 per cent. being lost. Stages over the hot-water pipes, in vineries or Tomato houses, are ideal positions in which to set the pots or boxes containing them.

Chrysanthemums, among other things, need a great amount of attention now, for it is by no means a small matter to keep them well supplied with water. Then there is the constant attention required in tying young shoots as they advance, and in taking the buds of those intended for the production of large blooms; still it is pleasant work, which the majority of growers regard as a pleasure rather than as a task. The staking of bush plants, where not already done, ought to be completed at once. Those intended solely for supplying cut flowers need but few stakes—one placed in the centre of a large pot, with four or five round the edges, and a piece of raffia passed round them, answer the purpose in every way. Much time is annually wasted in gardens in placing a stake to every Chrysanthemum shoot, when a tenth of the number would answer the purpose better, and the appearance of the plant be greatly improved.

Whenever a trace of mildew is found the plants should be laid upon their sides and syringed with an insecticide—the one made from the recipe given in Mr. E. Molyneux's book is the best I have tried for the purpose. Timely attention to the matters touched upon in these few notes will enable the cultivator to house his plants rapidly when the critical time comes, instead of being in a hopeless muddle, which hinders the progress of the work, and does not help to insure its performance in the best way.—H. D.

GNATS AND MOSQUITOES.

PROBABLY there is no subject upon which so much nonsense is talked and written as upon the habits or history of insects, showing, that in this age of education, not many persons have a knowledge even of the rudiments of entomology. Almost every year, perhaps in the big Gooseberry season, or it may be earlier, we read accounts of the arrival of mosquitoes from abroad, and how people have suffered from their bites—stings, we should rather say.

Some years ago a very sensational paragraph took its round, describing the annoyance caused to the workers at a West London nursery by the importation of a colony of mosquitoes with foreign plants. On inquiry I found there was hardly an atom of truth in the story; a few men employed there had been slightly troubled by the visits of some flies, presumably gnats. This present season a good deal has appeared upon the supposed incursion of mosquitoes, and one of the amusing points was that one writer dwelt upon the distinction between gnat and mosquito in respect to sound. He remarked that those who were in peril from mosquitoes got a warning by the ominous notes of the insect which announced its rapid approach, and he assumed that gnats are silent.

But this is a great mistake, for is not the name of our familiar, and most abundant species, *Culex pipiens*? Certainly it is musical, at least in the females we notice a sound which may sometimes give us timely warning, but often I fancy the attack upon our skins is not preceded by this intimation. "What is that curious trumpet-like noise?" said a friend one day who was sitting with me, and he was astonished that a creature so small had as much vocal power, if we give it that name. The male is silent, I believe, and easily distinguished by its feathery antennæ, the organs being simple in the female.

With regard to the mosquito, however, some of them may be brought here from lands where they abound, though not attached to nor associated with plants in transit. Their early stage of life in the larval form is passed under water, and it does not seem likely that any number of such flies would travel any distance from the ponds or streams in which they have bred, even on board vessels; certainly they could not fly over the sea. My conviction is that the offenders are mostly one or other of our native species. Ponds and lakes about parks frequently breed them, which accounts for strollers in such places being attacked, and unfortunately gnats are also produced numerously in many gardens.

Receptacles of rain water that are not thoroughly cleared from time to time become homes for gnat larvæ, and also for the grubs of some beetles which are injurious to flowers or fruit. Although I have observed people avoid those midges which, at various seasons, execute mazy dances in gardens, there is no proof that they ever puncture the human skin. The irritation caused by a gnat is, with many persons, quite as troublesome as that arising from the sting of a wasp or bee. I have seen large and painful swellings arising from a gnat's sting, accompanied by much fever and general upset. One curious thing is, that its effects are seldom perceived at first, so timely measures of cure are often neglected; cold bathing and the application of an alkali seem the best prompt remedies. No doubt a poison is thrown into the tiny wound caused by the lancets of the sting, which must be of a very potent nature.—ENTOMOLOGIST.

CHOICE FRUIT IN POTS.

So much is attention centred on the Carnations in Mr. Martin Smith's beautiful garden at Hayes, that other features are apt to be overlooked; yet certain of them are hardly less remarkable from the point of view of intrinsic excellence. As an instance, take the fruit trees in pots. There may be larger private collections, but certainly there is none better grown or fuller of interest from the novelty, number, and quality of the varieties. Near the Carnation houses is a large structure full of pot Peaches, Nectarines, and Apricots. Some of the trees are models, notably the two fine Nectarines Dryden and Pineapple, the smaller but prolific Goldoni, and the Peach Crimson Galande. They are splendid examples of fruitfulness and good management. The two earlies, Cardinal and Early Rivers, are over, and the trees removed to the open air, but they have given great satisfaction. Apricots are not often met with under pot culture, but there is an admirable collection at The Warrens, none looking better than Blenheim, Moor Park, and Grosse Pêche.

It is, however, in the open air that the most remarkable collection of pot trees is found. A wire enclosure of considerable extent, opposite the Carnation houses, contains a large assortment of magnificent Pears and Plums. Nearly every individual tree is a picture of health, cleanliness, good training, and fruitfulness. If anything, the Plums are the more striking of the two kinds. The fruits hang on the trees as thickly as the Onions on the shoulders of the swarthy foreigners who are perambulating our country districts just now, carrying away a goodly store of British gold for a vegetable which the average Britisher could, if he would, grow of superior quality. Not only are the Plums as thick as the Onions, but the trees that bear the former are far cleaner than the men who carry the latter. There are model trees of Kirke's, Transparent Gage, Magnum Bonum, Oullins' Golden, Grand Duke, and others. Amongst the Pears are beautiful trees of Souvenir du Congrès, Conference, Durondeau, Williams's Bon Chrétien, Beurré Bourdillon, Clapp's Favourite, Beurré Superfin, Doyenné du Comice, Marie Louise d'Uccle, and Magnate.

The condition of this large and fine collection of pot fruit is but another proof of the versatility of Mr. Chas. Blick, whose successes in every department of the garden stamp him as one of the best all-round men we have.—W. PEA.

THE CODLIN MOTH—AN APPEAL.

CAN anything be done in "our Journal" to practically guide us how to prevent the annoying destruction of so many Apples and Pears every year by the grub of the moth, that eats its way to the seeds, and then the fruits fall, thus proving a great source of loss?

Continually going over the ground, picking up the fallen fruits and destroying them, is troublesome and not effective—some more practical remedy is needed.

There are so many old orchard trees grown in the neighbourhood, which breed and harbour the moths, that a grower of only the choicest specimen or highest priced market fruits suffers considerably. Cox's Orange and Ribston Pippins on cordons lose each year many of their best fruits, and even Pears of a pound weight are lost from the same cause.

Could the land be dressed with anything at any time that would kill the grubs? or could the moths be effectually prevented from laying their eggs in the young fruits?—S. S.

[We shall be glad to publish any records of experience by which the injury caused by the enemy in question has been mitigated or averted.]

ROYAL HORTICULTURAL SOCIETY.

THE FRUIT AND VEGETABLE COMMITTEE AT CHISWICK.
AUGUST 30TH.

THE holidays evidently were responsible for the very moderate response to the invitations to members to meet at Chiswick on the above date, as out of forty persons only the following attended:—The Rev. W. Wilks; and Messrs. J. Cheal, A. F. Barron, W. Poupart, R. Fife, W. Pope, C. Herrin, and A. Dean. As a result only "highly commended" awards could be made. There was plenty to examine, commencing with some sixty to seventy diversely named stocks of Onions. Few vegetables present less distinctness than do these bulbs, the chief diversity being found in shape and colour of the products. In too many cases there was difference only in name.

ONIONS.

Great interest attached to the trial of these, because of each stock received last autumn there had been then sown a row outdoors, and a second row of the same length was sown in the spring, a third row of plants taken from the autumn-sown one being also planted. The winter fogs played havoc with some of the varieties, and notably the white-skinned forms and the commonly grown Tripolis. The Roccos seem to have stood better. However, there was a capital trial all the same, and in not a few cases the autumn-sown plants, both undisturbed and transplanted, gave excellent bulbs. In a few cases the autumn results were better than from the spring sowings. In others the spring bulbs were best. Some autumn-sown ones gave rather broad flat bulbs that had split or divided; others, especially the deep rounds or ovals, were first-rate. No doubt all these diversities will be detailed when the results of the trial are published in the Society's Journal. It was, however, clearly demonstrated that some of our finest stocks of Round and Globe varieties gave far better results from autumn sowings than did the Tripolis. Cottagers and allotment holders should specially note that fact.

The Committee, after a very careful scrutiny of the whole trial, awarded three marks to Banbury Cross, Nuneham Park, Wroxton, and Rousham Park Hero; and would have given the same to Suttons' Al and Cocoa-nut, but these had been previously honoured. All these were stocks of great excellence. Very good also were Trebons, Giant Zittau, Cranston's Excelsior, Suttons' Globe, and Eclipse.

POTATOES.

A move was then made to the Potato trial, this year an extensive one, and for Chiswick a rather remarkable one, seeing that hardly the slightest evidence of disease was seen. The first earlies were very good but rather small, having ripened off early. Some of the late ones had tops of inordinate growth, and had produced no tubers, but only a mat of root stolons. In a few cases tubers had begun to grow out. So good were the crops that no less than thirteen varieties were selected to be cooked, six tubers of each being taken for that purpose.

Ultimately these were very admirably cooked and presented to the Committee "all hot" for tasting. The following had three marks awarded:—Challenge, a splendid flat white round; The Major, a fine flattish white variety; The Queen, a large round; Devonian, white kidney of delicious quality; Ellen Terry, white, a huge cropper; Ivo, rather shortish top with curled leaves, from the Canary Islands, capital flavour; and Fishtoft Seedling, a great cropper, well suited for field culture. None of the coloured varieties grown came out well.

TOMATOES.

There was next seen a large collection of Tomatoes in pots. Whilst most of the varieties seemed to be good, very few indeed showed evidence of any special excellence. Any variety that can excel the best now in commerce must indeed be wonderfully good. The Committee liked the appearance of St. Simon, a variety that has medium sized, very round, and handsome fruits; and Stirling Castle, also having moderately sized fruits very abundantly produced. Both these are red-fruited. Also Peach Yellow, the fruit also smallish, and very round and handsome; colour straw yellow, covered with white bloom. These had three marks awarded, the latter for its fine flavour for dessert purposes. Two marks were awarded to Semper fructifera as a decorative variety; the fruits are small, Pear shape, and borne in wonderful profusion in great clusters.

BEET.

Finally a trial of Beet was seen, though not in first-class condition, owing to the drought. The roots of Cheltenham Green Top were without doubt the best, and it was agreed to recommend it for a F.C.C. This variety, Mr. Poupart stated, has now become by far the most popular in the London markets. Three marks were given to a first-rate deep-rooted and rich-coloured stock of Red Globe, one of the very best we have seen. It was sent by Messrs. Watkins & Simpson.

DRILL HALL.—SEPT. 6TH.

THE meeting on Tuesday was a comparatively small one, but quite as good as could be expected at this period of the year. Fruit was numerous and of excellent quality, but Orchids were few in number. Exhibits before the Floral Committee were bright and attractive.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); with Rev. W. Wilks, and Messrs. G. Bunyard, J. Cheal, W. Poupart, A. H.

Pearson, M. Gleeson, G. Norman, J. Smith, H. Balderson, W. Pope, C. Herrin, J. J. Miles, and A. Dean.

The duties of the Committee commenced with an examination of the Onions, Potatoes, and Beet, which had been recommended by the Committee that last week examined the crops at Chiswick. All the varieties (which will be found in our report of the Chiswick meeting above) were granted awards of merit.

Messrs. R. Veitch & Sons, Exeter, sent a fine yellow fruit of Hero of Taunton Melon; it was thin in the flesh and not ripe, and therefore no award was made.

Mr. Miller sent from Ruxley Lodge, Esher, three dishes of splendid Princess of Wales Peach, and a cultural commendation was unanimously awarded.

Mr. Owen Thomas sent from the Royal Gardens a handsome Melon, straw colour, and finely netted; rind thin, flesh thick, white, juicy, tender, and deliciously flavoured. It is worthy of its name, *British Queen*, and secured a first-class certificate.

Mr. J. Cole, gardener to H. Faure Walker, Esq., Highly Manor, Balcombe, Sussex, sent handsome Morello Cherries, for which a cultural commendation was awarded.

Mr. J. Day, gardener to the Earl of Galloway, Garlieston, Wigtonshire, sent dishes of Early Grosse Mignonne Peach and Rivers' Orange Nectarine grown against an open wall (cultural commendation). Mr. J. Robinson, Elmsfield Gardens, Hollingbourne, Kent, sent Sea Eagle, Princess of Wales, and Lord Palmerston Peaches, and obtained a similar award. Mr. H. C. East, gardener to H. O. O'Hagan, Esq., River Home, Hampton Court, sent handsome fruits of Exquisite Peach, also good dishes of Nectarines (cultural commendation). Mr. McIndoe sent handsome fruits of the hybrid Japanese Plum—the Burbank—grown in an orchard house, but no award was made. Messrs. T. Rivers and Son sent a Grape of enormous size named the Centennial, berries greenish white and a little rusted, also more or less hollow. No award; also bunches of the white Grape Gradiska, similar to Buckland Sweetwater.

The so-called Strawberry-Raspberry, *Rubus palmatus*, was sent by Messrs. Laxton—ornamental, but not eatable, and regarded as a garden curiosity.

Messrs. T. Rivers & Son exhibited a collection of Plum trees grown in 8 to 10-inch pots laden with fruit. A silver Knightian medal was awarded. Mr. Spooner staged a collection of Apples, and was adjudged a bronze Banksian medal. Messrs. James Veitch & Sons staged a fine collection of Apples, Pears, Plums, and Crabs, also well fruited dwarf Fig trees, and were worthily awarded the silver Knightian medal.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); and the Rev. H. Honeywood D'Ombrian; with Messrs. E. Molyneux, G. Stevens, J. Hudson, J. F. McLeod, H. B. May, J. Fraser, W. Bain, H. S. Leonard, J. Walker, H. J. Cutbush, J. W. Pawle, G. Paul, H. Turner, E. T. Cook, and J. Fraser (Kew).

Messrs. F. Sander & Co., St. Albans, sent plants of *Acalypha Sanderi*, with *Dracæna Sanderiana*, *Hæmanthus multiflorus superbus*, *Dendrobium Schröderæ*, and *Cattleya gigas*. Mr. W. Rumsey, Waltham Cross, exhibited a number of fine blooms of Rose Mrs. W. Rumsey, which is taking a high place in public estimation (bronze Banksian medal). Mr. H. B. May, Upper Edmonton, occupied a large portion of the centre of the hall with a group of *Salvia splendens grandiflora*, *Swainsonia alba*, *Fuchsia Ballet Girl*, *Carnations*, *Bouvardias*, and *Ferns* (silver Banksian medal). Messrs. J. Veitch & Son, Ltd., Chelsea, exhibited *Hibiscus totus albus*, *H. coelestis*, and *H. monstrosa*, with an excellent collection of hardy *Nymphæas*. The varieties were well diversified. The same firm sent also a collection of Childs hybrid *Gladioli* (silver Banksian medal).

Mr. A. Pentney, gardener to A. J. Howard, Esq., Worton Hall, Isleworth, staged a bright collection of Cannas and *Streptocarpus* interspersed with small *Ferns* (silver Banksian medal). Mr. W. Bain, gardener to Sir Trevor Lawrence, Bt., Dorking, showed a number of hybrid Pentstemons, as well as a few other plants. Mr. W. Parrott, Sevenoaks, and Mr. T. W. Girdlestone, Sunningdale, contributed an assortment of decorative Dahlias, in which some effective colours were observed. An interesting and varied collection of *Ferns* was sent by Messrs. J. Hill & Son, Lower Edmonton (silver Flora medal).

Messrs. J. Cheal & Sons, Crawley, were represented by an extensive collection of hardy flowers with trees and shrubs. *Cactus*, *Pompon*, and single Dahlias made a very bright display, and comprised many varieties of excellent quality. The substance in the *Cactus* varieties was great, and the colours were particularly rich. Some of the best of these were Earl of Pembroke, Lady Penzance, Mrs. Turner, Miss Webster, Mrs. Kingley Foster, Mrs. Wilson, Noble, Starfish, Mrs. Dickson, Loreley, Mrs. Scrace Dickens, Beatrice, and Mrs. Finlay Campbell (silver-gilt Banksian medal).

SHERWOOD CUP.—This was the last occasion upon which it was necessary to send annuals and biennials in competition for this cup. As has become customary, Messrs. J. Veitch & Sons were the only exhibitors, and considering the date and the protracted dry weather the group was in all respects creditable.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, A. H. Smea, De B. Crawshaw, S. Courtauld, J. G. Fowler, H. M. Pollett, W. H. Young, W. H. White, H. J. Chapman, T. W. Bond, J. Douglas, and T. B. Haywood.

The only collection of Orchids that was sent came from Messrs. J. Veitch & Sons, Ltd., Chelsea, and was most interesting. The

Lælio-Cattleyas were particularly noteworthy, but *Cypripediums*, *Miltonias*, *Dendrobiums*, and *Oncidium*s were also good (silver Flora medal). Mr. O. Thomas, Royal Gardens, Windsor, sent a magnificently grown plant of *Peristeria elata*. It was one of the grandest specimens that has been seen, and carried seven splendid spikes of flowers (silver Flora medal). Messrs. F. Sander & Co., H. Low & Co., and T. W. Bond, also sent small exhibits of Orchids.

CERTIFICATES AND AWARDS OF MERIT.

Acer negundo elegans (Paul & Son).—A graceful growing golden variegated plant that is comparatively well known (first-class certificate).

Cattleya Ella (J. Veitch & Sons).—This is a handsome hybrid that resulted from a cross between *C. Warscewiczii* and *C. bicolor*. The sepals and petals are purplish rose, paler in the sepals. The flat spreading lip is crimson with a suffusion of purple (award of merit).

Dahlia Puck (T. W. Girdlestone).—A single decorative variety with deep reddish-buff flowers (award of merit).

Dahlia Columbine (T. W. Girdlestone).—A peculiarly coloured decorative single variety. The central portion of the flower is orange, and the outer portion slaty pink (award of merit).

Dahlia Mrs. Finlay Campbell (J. Cheal & Sons).—An excellent scarlet coloured Cactus variety (award of merit).

Dahlia Loreley (J. Cheal & Sons).—A bright rose-hued variety with a paler centre. It belongs to the Cactus section (award of merit).

Dahlia Magnificent (J. Stredwick).—Another Cactus variety of the best quality. The colour is yellowish buff (award of merit).

Dahlia Lady Rogers (J. Leggatt).—A good variety of the Pompon type. The colour is pure white (award of merit).

Dendrobium sanguineum (W. H. White).—This is a Dendrobe of remarkable formation, differing from almost if not quite all others in the genus. As the name implies the colour is blood red (award of merit).

Dracæna Duchess of York (J. Veitch & Sons).—An elegant, narrow-leaved plant that ought to have decorative value. The central portion of the leaf is dark green and the margin is deep red. When young there is a considerable amount of white in the leaves (award of merit).

Helenium autumnale superbum (W. Bain).—A fine variety of this floriferous autumn-flowering plant. The colour is bright yellow (award of merit).

Lobelia Rivoirei (W. Bain).—This attains to a height of nearly 2 feet, and produces numerous pale rose-hued flowers (award of merit).

Peristeria elata (O. Thomas).—This, the Dove Orchid, is too well known to call for any description (first-class certificate).

HUNNEMANNIA FUMARIÆFOLIA.

At the last four or five meetings at the Drill Hall, Westminster, Messrs. J. Veitch & Sons, Ltd., Chelsea, have exhibited a collection of annuals and biennials for the Sherwood cup that was offered for the encouragement of these flowers. Unfortunately the Chelsea growers have been the only contributors, but they have sent flowers of excellent quality. At the exhibition held on Tuesday, August 23rd, there was included in a splendidly diversified stand *Hunnemannia fumariæfolia*, this also being entered for special examination by the Floral Committee. The result of this was that this body recommended an award of merit, an honour that the plant well deserved for its decorative value. It was introduced to this country from Mexico about seventy years ago, but is very seldom seen. Though, strictly speaking, it is a perennial, it may well be grown as an annual, for the flowers staged were from seeds sown in the open ground during April. The flowers are Poppy-like in form and bright yellow in colour. They are of much substance and exceedingly attractive. The foliage resembles that of the *Eschscholtzia* both in form and colour. An excellent representation of the flower is given in the illustration, fig. 33.

ROYAL BOTANIC SOCIETY.

MR. BRINSLEY MARLAY, in a letter that appeared in a recent issue of the "Times," and which was reprinted in your issue of the 1st inst., refers to one aspect of the Botanic Society which he states he, as Chairman of the annual meeting on the 10th ult., omitted to dwell upon. The aspect in question is the opportunity the Gardens afford for seclusion from the crowds that are to be found in almost every other place of resort in London, and this, we are informed, was an object aimed at by the founders of the Society.

Everyone can sympathise with the object referred to, but I venture to doubt if it is rightly attributed to the founders. The Charter of the Society was granted in 1840, when London was a very different place to what it is to-day, and when the need of secluded spots could not have been an urgent one. The Charter itself does not, I submit, support your correspondent's contention, as the objects of the Society are set out in the recital as follows:—"Whereas several of our loving subjects are desirous of forming a society for the promotion of botany in all its branches, and its application to medicine, arts, and manufactures, and also for the forma-

tion of extensive Botanical and Ornamental Gardens within the immediate vicinity of the metropolis."

I am at variance with the Council as to whether the Society now satisfactorily fulfils the intentions of the founders. The charter and bye-laws authorise the appointment of Superintendents, Secretaries, Librarian, Curators, and other officers. The fact that the Council now apparently consider one officer alone—the Secretary—is equal to the whole of the work the Society is called upon to do, seems to me to indicate that the founders' anticipations have not been fully realised.

There is, however, another aspect of the question that it is impossible to ignore, and that is that the policy of exclusion and the system of management that has for many years past been pursued by the Council has involved the Society in heavy and increasing liabilities. To keep the Gardens in their present condition requires an annual income of £6000. The income that can be reckoned upon only amounts to some £4000. In their report this year the Council say that "their prediction as to the success of the year 1897 in their last report was fully borne out," and, again, that "the Council are pleased to say that the account of receipts over expenditure shows a small balance in favour of the Society."



FIG. 33.—HUNNEMANNIA FUMARIÆFOLIA.

It is, however, very difficult to reconcile these statements with the accounts, as no less than £2352 had to be borrowed from friends in order to make the receipts cover the expenditure.

The Fellows have absolutely no voice in the management of the Society, and practically none in the election of the Council. A resolution I moved last year affirming that Fellows ought to be, if not already, entitled to bring forward at Fellows' meetings motions of recommendation to the Council, was negatived by the casting vote of the Chairman. The scant consideration given to almost every suggestion made for improving the Society's position indicates the spirit in which the Society's affairs are managed.

It would, I conceive, be a dire misfortune if, in consequence of the inability of the Society to surmount its difficulties, the Gardens had to be thrown open. Apart from the scientific work that might be done, the enclosure is probably now the only private grounds left in London where flower shows and exhibitions can suitably and at all times be held, and it is impossible to say what uses may not in the future be found for such an area of ground in the centre of town, admission to which can be controlled. The Society's liabilities are, however, greater to-day than they have ever been before, and I venture to address you in the hope that the Council may be induced to reconsider the policy they have hitherto pursued, with the view to putting their house in order before it is too late.—J. S. RUBINSTEIN.

JASMINUM REVOLUTUM.

THIS fine evergreen climbing shrub is not so frequently met with as the common white Jasmine (*J. officinale*). The latter is thus well known and deservedly popular from the delicious fragrance of its many white flowers. The revolute-leaved Jasmine forced itself into my notice recently by pushing strong shoots high above a 6-foot wall running north-east and south-west, the plant being on the north-west side. Its fine alternate deep green leaves were striking, but more so the terminal corymbs of bright yellow, very fragrant flowers. This first drew attention, and then I thought what a pity this native of India, and with us since 1812, was not better understood and given a place where it could display its vigour, and whilst affording agreeable shelter and shade delight the observer. Why had it not been selected for clothing the arbour with its southern outlook near by? I wondered, and since July have been charmed by its golden sheen and odour, for it keeps blooming, and, as it seems to me, asking for a sympathetic hand to lift into proper place. No opportunity has yet offered to point out to the owner that *J. revolutum* merits special notice for covering walls and arbours outside. I say outside guardedly, for this is regarded as a greenhouse or half-hardy evergreen climbing shrub.

In the instance named the sweet-scented yellow Jasmine was as "hard as nails," even standing in the open and forming a dense bush. *J. revolutum* is an evergreen form of *J. humile*, with a climbing habit and fragrant flowers. The true *J. revolutum* succeeds against a wall with a north-west aspect in Mid-Herts, and, of course, does all the better when given room to grow upwards and sideways for displaying its beauty. It covers an arbour beautifully in a sheltered situation, and thrives on pillars and trellises in front of a house, especially with an east, round with the sun, to a west aspect. Gravelly loam suits it, as then the wood is hard, the growths strong and free-flowering. The plant can be cut in as desired, but the flowers are produced terminally, therefore let the summer shoots run, spur-in to some extent after flowering, leaving certain growths for early blooming.—S. A.

GOLDEN HAMBURGH GRAPE.

My experience with the above Grape is limited to my present charge. I found it planted alternately with Black Hamburgh, all of which were in a very weak and unhealthy condition, and after making an examination of the border I came to the conclusion that the remedy was to be found in replanting them in a new border, which I carried out in the early autumn of 1889. I awaited the following season rather anxiously, and after having cut them hard back I had the pleasure of seeing them start, and as the season advanced make strong and healthy growth. Since that time they have been in a very robust condition, and although for the last six years they have carried heavy crops, and I have seen no signs of degenerating at present.

The vinery in which they are grown is started about the middle of February, the Vines brought on steadily, and the fruit is ripe about the second week in August. During the growing season they are well fed with liquid manure, with a top-dressing of soot washed in at intervals. The fruit of which I send you a sample requires a dry atmosphere when ripe, or the berries soon decay at the point of union with the footstalks. I shall be very pleased to hear whether it is the true Golden Hamburgh or not.—E. SEMPER, *Scawby, Lincoln.*

[The bunch did not travel well, but the berries represent very fine examples of the true "Golden Hamburgh," or rather of the Luglienga Bianca. The variety is well grown by Mr. Owen Thomas at Frogmore. The berries are prone to decay as suggested.]

THE DECLINE OF THE PELARGONIUM.

WHEN I read the opening remarks of "D., Deal," on the above subject on page 146 I felt as I suppose most men feel when they fancy they are in receipt of a compliment, but before I had reached the first full stop my impulse was to rush away to my file of Journals to ascertain whether the drift of my argument on page 122 was so unintelligible as to require further explanation. "D." does not seem to be quite sure about my application of the terms "Geranium" and "Pelargonium," but has an idea that I used the latter as applicable to both the Zonal, Show, and Fancy sections of the family. Certainly I did, and am surprised to see an admission from the pen of my critic that a florist of his long experience should never have heard the term Pelargonium used in connection with the Zonal section of this family.

In his excellent article on "Fashion" (page 159) the veteran considers that there would be less confusion if the Zonal section was generally regarded as "Geraniums" and the greenhouse section as "Pelargoniums." Perhaps so, but that would mean the acceptance of a term that is wrong, and it is difficult to believe that "D., Deal," did not know that "Pelargonium" is correct when applied to the Zonal section and "Geranium" erroneous, though commonly by custom employed.

Did your correspondent pause to wonder why the word "Geranium," when used in my notes, was quoted? I would suggest that he look carefully through his back numbers, and he will, I think, find the word so dealt with when it is applied to the Zonal Pelargonium. The latter term is, I believe, officially used by the *Journal of Horticulture* when speaking of this section of the family, which makes it appear all the more strange that "D." has never heard of the word being so applied. It is for the

Editor to decide whether the suggestion on page 159 be adopted, or whether the *Journal* will adhere to its strictly correct custom.

In his criticism of my application of the word "Fancy" in reference to greenhouse Pelargoniums, "D., Deal," wishes to be strictly correct, instead of, as in the former case, being satisfied with custom, while I used the term in a general sense when referring to the greenhouse section. I thank him for his clear discrimination of the two divisions on page 160.

I do not gather that your correspondent's understanding is embarrassed over anything but the application of terms, as his leader of last week is only a detailed article bearing out the contention made by myself that the rage for Pelargoniums of all sections rose to a populous height and then waned, let us hope to rise again in the future. "D." shows his acquaintanceship with the subject in his interesting account of those who were responsible for the introduction of many fine varieties; but, I think, makes an omission in not mentioning the name of the late Mr. R. D. Miller of Ramsgate, who is credited with having raised some of the best varieties of Zonals in cultivation. The mistress of fashion has doubtless had a great deal to do with the wane of the Pelargonium's popularity, but there are reasons to think that all sections will again come to the front. May it be so.—G. H. H.

A HOLIDAY TOUR.

(Continued from page 170.)

ON the morning of the third day of my holiday I left Charing Cross for Maidstone, having in view a visit to Mr. Bunyard's Nurseries. Of the Allington Nurseries one could write at great length, but to realise their extent and the systematic management of the thousands of fruit trees, a visit is a necessity. The trees are planted in lines at sufficient distances apart to allow of the soil between being constantly moved, to which must be largely ascribed the healthy appearance of the trees.

The growing and training of bush, pyramid, half-standard, standard, and espalier trees are done to perfection, and I undoubtedly gained information that will be of invaluable service in the near future. The orchard houses were full of well grown trees which were carrying good crops of fine fruit, though they had been subject to vicissitudes of temperature early in the season. After a cup of tea with the principal and his son, I had a leisurely walk to Chiltern Hundreds, where Mr. Bunyard has another extensive nursery well filled with Strawberries of the most up-to-date varieties, and where many practical lessons can be gleaned. My thanks are due to the head of this well-known firm for the manner in which I was entertained on my first visit to Maidstone.

On the following day I repaired to Barham Court, which has won a reputation for the production of high-class fruits, under the able management of Mr. George Woodward. Though it was raining in torrents, I felt I could not miss the opportunity of visiting these gardens. Mr. Woodward's successes at our large exhibitions can undoubtedly be attributed to energy, perseverance, and the application of common sense to the individual requirements of the plants under his charge.

Of the many things I observed I may mention first the application of long strips of bark, which are placed on the stems of the Peach trees covering the union of stock and graft, the object of this being to insure an uninterrupted but regular flow of sap at all stages of growth. Secondly, in conversation with this able gardener I found he had an aversion to whitewashing walls, which in his opinion was very injurious, particularly so far as outside fruits were concerned, the night temperature being considerably lowered by the rapid reflection of the heat rays and the greater liability of the destruction of fruit blossoms by the late spring frosts. The operations of root-pruning, transplanting, disbudding, and the thinning of fruits are judiciously done at the most opportune seasons.

After tea the rain cleared, and we had a walk through the Hop fields, Nut plantations, and the well-wooded park adjoining Barham Court, where there are some remarkably fine trees. At the close of my visit I was not the least astonished at the successes of Mr. Woodward, and at his possession of medals and cups, which I had the pleasure to see. The time allowed at my disposal for visiting this well-known garden went quickly by, and after thanking Mr. and Mrs. G. Woodward for their hospitality I returned to Maidstone.

On the Monday morning I left Maidstone early for Swanley, to visit Messrs. H. Cannell & Sons' Home of Flowers, and also the Swanley Horticultural College. The extensive fruit orchards and Hop fields *en route* were much appreciated, and greatly relieved the monotony of railway travelling. On the right, near to Eynsford station, I observed the branch establishment of Messrs. H. Cannell & Sons, where fruit, flowers, and vegetables are grown in quantity and of the best quality.

On my arrival at Swanley the morning was again miserable, and if it had not been for the feast in store, from a horticultural point of view, I should have been most depressed. Mr. H. Cannell, sen., put me in charge of his foreman. I do not wish to particularise the contents of all the houses well stocked with plants in variety, but I do wish to draw attention to a large house of Cacti and succulent plants, which afforded an educational treat. *Cereus*, *Phyllocactus*, *Echinocactus*, *Echinocereus*, *Pilocereus*, *Echinopsis*, *Mammillarias*, and *Opuntia* in variety were represented. The houses of *Begonias*, single and double, were exceedingly good, so were the single and double Zonal Pelargoniums, while the houses of *Cannas* were a picture to behold.

Outside, the two subjects which attracted my attention most were the *Chrysanthemums*, of the very best varieties in cultivation, and the *Dahlias*, which were grown in a kind of basin, no doubt for the purpose of watering, feeding, and mulching. The "Home of Flowers" is an

extensive establishment, and well worth a visit from anyone interested in gardening.

After taking leave of the senior partner of this firm I wended my way via Hextable to Swanley College. Since the commencement of this College I have had a great interest in its welfare, as I contend if properly managed it will be of great benefit to those who are fortunate enough to gain admission. The horticultural department is under the management of Mr. L. Budworth, who kindly showed me over the College buildings, the 60 acres of land, and over twenty greenhouses. The surplus crops are marketed, and at the time of my visit there were several houses of Tomato plants which were yielding heavy crops of fruit. The principal varieties were Sutton's Perfection, Golden Queen, and Up to Date. Mr. Budworth's principal Cucumber is one of his own raising, a cross between Rochford Market and Magnum Bonum. The Peach crops have been excellent; but the trees, being planted on the chalk, are making little wood. Since the lifting and replanting of the Vines they are growing more freely, and should in time yield large crops of first-class Grapes. A speciality is here made of the new and best sorts of Chrysanthemums.

Fruit trees under various systems of training are grown in quantity for teaching purposes. The houses are heated with the "Champion" boiler of the Thames Bank Iron Company, which I found gave entire satisfaction. There is a formidable list of subjects taught, including horticulture, dairy farming, apiculture, botany, forestry, chemistry, book-keeping, drawing, geology, meteorology, entomology, jam making, and others, all of which are important. If the students combine with this scientific education a thoroughly practical training, England should eventually be better for the existence of Swanley and similar colleges.

Before closing my remarks on my visit to Kent I should like to add a few words of reference to the educational work of Mr. W. P. Wright, the Chief Horticultural Instructor for the Kent County Council. There is undoubtedly a need for technical instruction in all counties; but were we all in a position to claim the good results which have followed Mr. Wright in his labours we should feel more than satisfied.

The report of the work for 1897 is very gratifying indeed. There were fifty-four centres of allotments and cottage gardens, with 542 individual competitors of adults, in addition to eighteen centres for boys, with a total of 259 students. With a list of thirty-three crops, it is possible to obtain 181 marks or points at each inspection, the plots being visited twice. The most successful competitor for 1897 was Mr. Harmer of Willesborough, who secured at the two inspections 197 points out of a possible 362, and received at the penny per point system of awarding prizes, which Mr. Wright has introduced, the sum of 16s. 5d. Those interested in County Council work should secure Mr. Wright's notes upon the work of 1897 in the county of Kent.—S. H.

(To be continued.)

COTTAGE GARDEN AND ALLOTMENT CROPS IN SURREY.

A COUNTY Council Inspector writes on this subject as follows:—Generally the season has been late, and in that respect detrimental to some of the tenderer vegetables, especially in the early summer. Thus Runner and Dwarf Kidney Beans, though eventually very good, were fully a fortnight later than usual in cropping, and the latter in some localities came indifferently. Vegetable Marrows and Tomatoes also were very late. Only in either case where a garden was well sheltered or special protection had been furnished were these plants at all forward. Potatoes were fairly good, but generally irregular in growth. This feature has been unusually marked this year, and was doubtless due to premature growth being forced in the seed tubers last winter because that season was so open and mild. Early planted breadths ripened off very early owing to the great heat and drought prevalent during July. On the whole the crop, though not at all a heavy one, has been fairly sound and of good character. Peas and Broad Beans, where the soil was deeply worked, were very good, but in some rural districts finer varieties of Peas should be grown. The country seedsmen adhere still to varieties that were popular twenty years ago, but are now excelled. Onions, both autumn sown and spring sown, have been very good. The former, consisting chiefly of Tripolis, have been fine; still, as these so soon decay when ripe, it would be so much better did growers sow such hard varieties as are usually sown in the summer.

Very little trace of maggot or mildew has been seen amongst the spring Onions. Parsnips, too, have been good, and generally clean. A severe attack of the leaf-mining maggot seen at Richmond was not noticed elsewhere, and even there the plants grew out of it. Beets generally very good, yet have frequently been found of uneven or coarse stocks, a long way inferior to the fine strains growing on the C.C. trial plot at Richmond. Evidently these inferior stocks are too common. The worst crop of the season has been the Carrot; very rarely indeed was a breadth found that was healthy. The plants came well from seed, but the tops seem to have been stunted by the spring cold and then became a prey to aphids, which in many cases literally eat the tops up. This trouble, it is hoped, may have been but temporary. Those few who made a sowing of Carrot seed in July for winter pulling escaped such trouble. Cabbages, both white and red, have been beautiful, but too coarse. Better stocks are desirable. White Turnips have been generally good, and other crops, on the whole, have been fair and profitable. Bush fruits and Strawberries have been excellent crops.



WEATHER IN LONDON.—The weather in the metropolis continues oppressively hot. Until the time of going to press to-day (Wednesday), from the publication of our last issue, there has not been a dull day, and generally the sun has been exceptionally powerful. On Wednesday, however, it was hazy, and at midday the sun had not pierced the clouds.

— RUSSIAN IMPERIAL HORTICULTURAL SOCIETY.—Mr. James H. Veitch has been appointed Commissioner for Great Britain and Ireland for the third International Exhibition of Horticulture organised by the Russian Imperial Horticultural Society on the occasion of the fortieth anniversary, to be held at St. Petersburg in May, 1899. Schedules may be obtained from him on application at the Royal Exotic Nursery, Chelsea.

— ALDERMASTON ROSES.—As a neighbour of Mr. Strange I can more than corroborate his description of Nadaillac as she is grown at Aldermaston. Although Aldermaston Warf is almost on the level of the Kennet Canal, and he gets extra sharp frosts, the good old plants come up smiling again every summer. The majority are on stout standard stocks (unequalled when they may be had). Perhaps high feeding and good strong drink has something to do with it. Mr. Strange, sen., some two miles off, has also some marvellous Roses, especially a Marie Van Houtte, which seems to have mistaken itself for a Maréchal Niel.—A. C.

— FRUIT PROSPECTS ABOUT LANCASTER.—At Forton and Cockerham, where a large quantity of preserve fruit is grown, the yield is scanty with the exception of Pears and late Apples. The Plum trees, excluding Victorias, are practically bare, except in very sheltered parts. The crop of Victorias is only about a fifth of last year's. Damsons are extremely light. At Scotforth the country is more open, and the early night frosts blighted what was an excellent prospect. Insects have done great havoc. Winter Apples have been more fortunate, and in the Lune Valley the Damson crops are not so light. Pears seem to have done well generally. Several old established horticultural shows in the Lancaster district are not being held this year, notably those with which the public have been familiar at Lancaster, Caton, and Galgate. Conder Green Show still retains its old time popularity.

— THE SCARCITY OF PEAS.—Gardeners in many places who earlier in the season were gloating over their fine rows of early Peas have now a different tale to tell. The crop went off remarkably quick, and now at the end of the summer, when tall-growing late Peas should be picked in quantity, good supplies are the exception rather than the rule. In keeping up a supply this summer deep cultivation has told its tale, and Peas are best where watering and mulching have been practicable. In many instances I have noticed that the haulm has commenced withering before pods have had time to form, and in consequence the latter have been small and malformed. Thrips have done a good share in making matters worse, and the Peas when gathered have been found to be badly grub-eaten. Tropical sunshine and few showers have upset a good many hopes respecting the Pea crop.—H.

— THE HOP CROP.—Messrs. W. H. & H. Le May, in their annual report of the Hop crops of the world, state that never in the memory of the oldest Hop grower has there been such a persistent and prolonged attack of aphid blight in the Hop gardens of England, which commenced early in May and was only finally conquered about three weeks since, when the hot weather set in to help the efforts of the washing machine. There has never been a crop of Hops raised at so great an expense to the farmer as has been the case this year. Taking the English growth in the aggregate they believe that it will fall short of that of last year by 20 per cent. The decrease of acreage by 1128 acres accentuates the position, and puts the shortage beyond question. With an ever-increasing consumption of beer there will be the greatest shortage of Hops the world has ever seen, for although America will produce as many Hops as last year, the continent will fall far short. With regard to the prices likely to be realised for the English crop, it is their opinion that there will be no difficulty in making £7 to £8 per cwt. for the choice Golding Hops grown in Mid and East Kent respectively, and that all good sound Hops suitable for copper use will sell freely at £5 to £6 6s. per cwt.

— GARDENING APPOINTMENT.—Mr. Geo. Grimmer, late general foreman in The Grove Gardens, Stanmore, has been appointed head gardener to W. G. Phillips, Esq., Berwick House, Shrewsbury.

— AUGUST WEATHER AT DRIFFIELD.—Mean temperature at 9 A.M. (corrected), 60.87°; wet bulb, 57.31°; mean maximum, 68.12°; mean minimum, 51.45°; highest, 79° on the 12th; lowest, 41.8° on the 29th. Mean of maxima and minima, 59.78°. Mean radiation temperature on the grass, 48.82°; lowest, 40° on the 29th. Rainfall, 3.535 inches. Number of rainy days, eighteen. Greatest amount on one day, 0.8 inch on the 27th.—W. E. LOVEL, *Observer, York Road, Driffield.*

— SUSSEX RAINFALL.—The total rainfall at Stonehurst, Ardingly, for August, was 1.44 inch, being 0.86 inch below the average. The heaviest fall was 0.59 inch on the 7th. Rain fell on ten days. The maximum temperature was 86° on the 14th; the minimum, 47° on the 8th. Mean maximum, 75.13°; mean minimum, 54.21°; mean temperature, 64.67, which is 3.72° above the average; 80° and above it was recorded on eleven days. A hot trying month for garden crops, but glorious for the harvest, now mostly safe in the stack. Welcome showers came during last week, but not sufficient to go far into the ground, and September has come in hot and dry with a high barometer.—R. I.

— AUGUST WEATHER IN SOUTH WALES.—Total rainfall 4.82 inches, which fell on seventeen days; greatest fall 1.64 inch on the 18th. Mean temperature for the month 59.21°. Mean maximum 72.13°; mean minimum 46.29°. Highest reading 85° on the 14th and three following days; lowest reading 38° on the 6th and on four other occasions. The wind was in the W. and S.W. on twenty-one days, and in the N. and N.W. on seven days. There were eight sunless days. The wind during the early part of the month was very strong, at times blowing quite a gale. A few days previous to the 18th we had very hot weather, then on that date a terrible thunderstorm broke over the district at 11.30 A.M., and rain fell in torrents, with hail of an extraordinary size; it was the most remarkable storm ever remembered in the district. Another storm followed on the 21st, with the most brilliant display of lightning I have ever watched.—WM. MABBOTT, *Dowlais.*

— CALCEOLARIA ALBA.—In favoured localities, when planted against a warm wall, this Chilean species will stand through mild winters practically uninjured, but in the majority of places it is more a plant for the greenhouse than outside. To grow it well, seeds should be sown, or cuttings inserted early in August. When the cuttings are well rooted, or seedlings large enough to handle, they should be placed separately in 2½-inch pots, a mixture of loam, decayed leaves, and sand being used. As soon as they are well established they should be put into a cold frame, where they will remain until they flower. Before winter they should be potted once again, and after February they should be transferred to 6-inch pots—their flowering size. At this potting some decayed manure should be added to the compost. Between August and the beginning of April they will require stopping about three times. By this treatment bushy plants 1½ foot high smothered with pretty white flowers can be had for six or eight weeks during July and August. By grouping in conjunction with some bright-coloured foliage or flowering plants very pretty effects are obtained.—W. K.

— AROMATIC PLANTS.—The impression made on the organs of smell and taste, and the peculiar influence exercised over the digestive powers by those agents obtained from the vegetable kingdom, are very singular. Scarcely anyone is insensible to the odour of particular flowers and some are affected by them to an extraordinary degree. The approach to Ceylon can be determined by the fragrance of the air at the distance of many miles. The *Magnolia glauca* diffuses an odour by which it can be recognised at the distance of three miles among the swampy districts in which it grows. This powerfully affects many persons while travelling or hunting, and the *Magnolia tripetala* causes sickness, headache, and an aggravation of fevers and rheumatism among those near it who are labouring under these complaints. The odour of the Jonquils and other fragrant plants raised in Holland is so great when brought into a close room as to be quite overpowering. In such countries or places as have a very humid atmosphere the odour of plants is most readily diffused, as well as most potent; of this we may satisfy ourselves by calling to mind the greater fragrance of flowers early in the morning, in the evening, or after a shower. This accounts for the violent action of the plants in the countries just mentioned; but even many plants of our own country affect some individuals endowed with a peculiar and excessive sensibility to an extreme degree. The sweet-scented Violet has such an effect on certain persons as to occasion headache, convulsions, and apoplexy.—(*"Irish Farmers' Gazette."*)

— THE DECREASE IN OUR SWALLOW VISITORS.—The alleged decrease in the number of swallows and martins visiting England, which has been the ornithological feature of the past few years, is to be the subject of special discussion at the October conference of the Society for the Protection of Wild Birds. We should be in a very bad plight without our swallows. They are our most effective aerial police against the ravages of aphides and other destructive insects. The blight of the Hop plants during the past year or two has been ascribed directly to the increase of aphides due to the decrease of swallows, and many other crops have suffered in no slight degree from the same cause.

— GARDENERS' READING ROOM.—The "Kew Bulletin" says, "Kew is, amongst its other functions, a school of advanced horticulture. In 1848 the Office of Works devoted to the use of the young gardeners as a reading room in the evening a portion of the building now used as a Director's office. In 1860 a new room for this purpose was added, which has remained in use till the present year. The accommodation had, however, long become altogether insufficient for the number of gardeners employed, which now amounts to some fifty. Fortunately a large room adjoining Descanso House was available, and this the Office of Works has adapted to the purpose. Two small rooms adjoining serve as a cloak-room and lavatory."

— DISAPPOINTMENT WITH STOCKS.—I have heard many complaints this season on account of a large majority of the summer-flowering Stocks coming single when doubles were naturally expected. It is very disappointing when, after obtaining seeds of a good strain, raising plants, and expecting the beds to be a show of many-coloured double flowers, to find out afterwards that most of them are single. I do not know whether many of your readers have been troubled in the same way, but it would be interesting to know. The other day I saw a large border of Stocks, the greater part of which were single, and yet the grower informed me that the seeds were supposed to be of the best; he had obtained them from a reliable source, and had never had the same trouble before.—G.

— THE DRIEST YEAR SINCE 1813.—An examination of London rainfall records, extending back as far as the year 1813, shows that the present year so far has been the driest of the whole series. Up to the end of August the total rainfall this year amounted to only 9.3 inches, or 60 per cent. of the average. The nearest approach to so small an aggregate occurred in 1893 and also in 1847, in each of which years the total fall for the eight months amounted to about 9.9 inches, or 64 per cent. of the average. Next to these, in point of drying, came 1896 with 10.2 inches, or 66 per cent. of the average; 1870 and 1864 with 10.5 inches, or 68 per cent., and 1884 with 10.7 inches, or 69 per cent. The wettest year of the whole series appears to have been 1879. In the first eight months of that distressful year the total rainfall in London was as much as 27.3 inches, or 77 per cent. more than the average, and nearly three times as much as we have had this year.

— THE MANGO.—The smallest of the two examples of *Mangifera indica* growing in the Mexican house at Kew, is at the present time bearing several heads of flowers. Owing to the lack of bright sunshine early in the year, it is some two months later than last year, and the flower heads are fewer in number, growth appearing to have taken the place of flowers on some branches. The flowers themselves are small, greenish yellow, and insignificant, but as they are borne in large numbers in many-branched panicles from the points of the first of the current year's growth, they show to advantage against the dark green foliage. On first sight the inflorescences bear some resemblance to those of the Vine, but are upright instead of pendulous. Last year thirty fruits were set, which were eventually thinned to eight, which attained the size of duck's eggs, and ripened during the autumn. When ripe they were yellow, streaked and spotted with brown.—D. K.

— WHAT DROUGHT IN AUSTRALIA MEANS.—There has been great drought at the Antipodes, but the Australasian "Review of Reviews" announces a copious fall of rain over the whole country, and says:—"The parched inland plains will soon be covered with lush green grass, leafy orchards, and the yellowing corn. How cruel in intensity, how costly in results, the long-sustained drought has been is hardly realised. Sir William Zeal, at the annual meeting of Goldsbrough, Mort, & Co., Ltd., held in Melbourne on June 29th, tried to express in arithmetic the cost of the drought. The loss in Wheat, hay, and Oats to Victoria during the three years of drought he reckoned at over £5,000,000; the loss in wool for the same period was at least another £5,000,000. Thus the three years' drought cost Victoria alone something like £10,000,000." If that loss is multiplied over the whole area of Australia it will give some idea of what a drought when translated into money terms means.

— **BAMBOO BROOMS.**—An addition to the collection of Bamboo products exhibited in museum No. 2 of the Royal Gardens has recently been made by Mr. J. H. Hart, Superintendent of the Botanic Garden, Trinidad, who sends some convenient sized hand brooms made entirely from the stems of what is apparently *Bambusa vulgaris*. In the preparation of these brooms, says the "Kew Bulletin," the outer portion of the stem is split down, then beaten into a fibrous state, turned back, and tied down with string, leaving the central and naked portion of the stem to form the handle. The brooms illustrate a very simple but useful application of Bamboo stems.

— **AUSTRALIAN APPLES.**—The shippers of Australian and Tasmanian Apples this season have reason to be well satisfied with their returns. The crop was light, and local prices have been higher than for years past, but nevertheless about 140,000 bushels were sent to London, the greater quantity being from Tasmania. South Australia sent comparatively few, but the few have realised record prices, as high as 28s. for 40 lbs. being received, or 8½d. a pound wholesale. This leaves the grower about 20s., or 6d. a pound net. What the Apples could be sold at I cannot imagine. Of course, says a writer in a contemporary, only a very few cases were sold at this price, and I know the Apples were as pretty as any Apples grown, and of equally good quality.

— **QUORN HALL.**—After an absence of some years, in re-visiting Quorn Hall, Loughborough, the residence of E. H. Warner, Esq., I was pleased to see improvements and enlargements had been made in the gardens. The contents of the glass houses fully maintain their former excellence in each department, evidencing skilful cultivation, the houses being gay with the usual assortment of plants in vigorous health. The Vines and Peaches and other fruits have heavy crops of fruit. My object, however, in now writing is to make an inquiry of readers of the Journal—viz., Is Noblesse Peach usually considered to be a shy bearer? I have been under the impression such was the case, but here this variety was carrying quite as heavy a crop as any of the other sorts, the fruits being from 10 to 12 inches in circumference and of fine quality. The Peach range is about 120 feet in length, divided in the centre, each division containing Royal George, Bellegarde, and Princess of Wales Peaches, with Elruge, Pineapple, and Violet Hative Nectarines. I suppose Noblesse may be considered one of our best flavoured Peaches? Mr. A. Squires, the gardener, mentioned that he has never had a failure in these houses during his twenty years' charge.—G.

— **FLORIDA VELVET BEAN.**—Under this name a leguminous plant has been prominently recommended in American journals as a forage plant and as admirably adapted for green crop manuring. Recently the beans have been offered for sale in this country. As frequent references have been made to Kew, it is desirable to place on record what is known of the plant and its capabilities. As to its identity, it was from the first conjectured that the seeds belonged to a plant very near the common purple-flowered Cowhage or Cow-itch plant of the tropics, *Mucuna pruriens*. The difficulty, in the absence of adequate specimens, in identifying it with this, was the fact that in the Cow-itch plant the pods are densely covered with stinging hairs of a brownish colour. A plant so formidably armed, it was thought, could not safely be recommended for general cultivation. The name first given, *Dolichos multiflorus* (Dioclea Boykini) was clearly wrong. In these circumstances we are glad to find from the "Queensland Agricultural Journal," vol. ii., pp. 370-371 (with a plate), that the plant has flowered and fruited in that colony, and that Mr. F. M. Bailey, F.L.S., the Colonial Botanist, has identified it as *Mucuna pruriens* var. *utilis*. In this variety of the Cow-itch plant the pods are apparently devoid of stinging hairs. It is probably *M. utilis* of Wall., described in the "Flora of British India" (vol. ii., p. 187), as "a cultivated variety" with velvety not hairy pods. This is figured in "Wight's Icones" (vol. i., t. 280). According to Watt's "Dictionary of the Economic Products of India," "the young tender pods are cooked and eaten as a vegetable." What may also prove to be the same plant, with jet black seeds, is cultivated as a rotation crop on sugar estates in Mauritius, under the name of "Pois Mascate." The accounts given by interested parties in America respecting the agricultural value of the Florida Velvet Bean must be received with caution. It is undoubtedly a rapid grower and affords a large yield of nutritious forage. It bears an abundant crop of seed, and is therefore readily propagated. It may also, in common with many other leguminous plants, possess the power of obtaining its nitrogen from the atmosphere, and thus be admirably adapted for green crop manuring. How far it may be found superior in these respects to other plants it is impossible to say. As it is now being carefully tested in various parts of the tropics, it would be well to await reports which will, no doubt, be shortly issued on the subject.—("Kew Bulletin.")

— **JUDGING TABLE DECORATIONS.**—Would the Editor of the *Journal of Horticulture* kindly give his opinion as to whether gardeners or ladies are the fitter and more qualified to act as judges at a flower show where prizes are competed for in this section—for ordinary floral decoration, and where ladies, as a rule, are the competitors? It is generally thought that gardeners are more experienced in this line, but everyone does not hold this opinion; therefore I should be glad to have your decision.—HORTUS. [Though not a particularly nervous man the Editor hesitates to do what is requested, because neither all gardeners nor all ladies are, as such, equally endowed with a capacity for judging. In competitions of a national character the judging of the classes indicated is almost invariably entrusted to gardeners who have had great experience in decorative work.]

— **THE "FRIENDSHIP" TREES AT INVERARAY CASTLE.**—It is interesting to learn that the Duke of Argyll's grounds at Inveraray Castle contain almost as many mementoes of distinguished visitors as does the Castle itself. One portion of the ground is planted with "Friendship" trees. Sir John Lawrence planted a Spanish Chestnut in 1860; Dr. Guthrie one in 1863; Dr. Livingstone, in 1864; and Mr. Gladstone's tree, also a Spanish Chestnut, was planted in 1865. The late Emperor Frederick of Germany planted a Wellingtonia Pine in 1863, and his consort a Cypress. Earl Russell chose an Oak tree to commemorate his visit. Tennyson planted a Spanish Chestnut and a Cedar in 1857, and James Russell Lowell, on the occasion of his visit in 1880, planted a Silver Fir. A very fine Cedar of Lebanon, now of considerable dimensions, commemorates a visit of her Majesty to the Duke of Argyll in his Argyllshire seat.

— **FRUITING YOUNG VINES.**—It was my privilege recently to visit Hewell Grange, the Worcestershire seat of Lord Windsor, and see a house of young Vines (Black Hamburgs), grown from eyes, potted into 6-inch pots and then planted permanently in an inside border in May, 1896. Last year (1897) these Vines carried and finished well twelve to fourteen bunches on each rod of 10 feet in length (see the *Journal of Horticulture*, October 28th, 1897, page 417). This may seem a heavy crop on Vines so young, but it had no prejudicial effect, for on August 9th they were carrying an average of fifteen bunches on each, which will be at least 30 lbs. of Grapes to a rod of 10 feet. Each bunch is almost perfect. The Vines are in splendid health, and there is no doubt but Mr. Pettigrew may look forward to equally good results next year. In the same house, planted at one end, is a seedling Vine from Madresfield Court, "crossed" with Black Hamburg, which has been allowed to carry two bunches. It is quite distinct from any other variety, with fine berries, colour jet black, and combines the flavour of both parents. I am sure it would be interesting to the readers of the Journal to hear more about this house of Grapes from Mr. Pettigrew himself.—CHARLES COLEBROOK.

— **EXPORT OF INDIARUBBER FROM THE AMAZON REGION.**—The latest report of Mr. Churchill, the British Consul at Para, which is the chief port to which the shipping of the Amazon resorts, shows that the greater part of the great rubber production of the Amazon region is exported from Para. In 1896 the value of this export from Para was nearly 3½ millions sterling, of which Great Britain took over 1½ million, nearly the whole of the remainder going to the United States. The quantity was 15,226 tons, the total export from the Amazon being 20,981 tons, the balance being shipped largely at Manaus, about 1000 miles up the river. The chief sources of production are along the great rivers and islands in the Amazon belonging to the State of Para, the valleys of the main tributaries of the Amazon, such as the Purus and Madeira, and the Amazon districts of Bolivia and Peru. Mr. Churchill gives a long account of this remarkable industry in the Amazon region, its history, the mode in which it is now carried on, the profits, the varieties of the gum, and the like. The most important observation he makes under this head is that the supply is regarded by competent authorities as inexhaustible, because the tree is being continually reproduced by Nature. Some areas, such as Cameta, on the Tocantins, have become exhausted, but when abandoned for a time they recover, and many districts have not been tapped at all. The area producing Para rubber amounts to a million square miles, and further exploration will probably show that this is under-estimated. The richest zones at present known are along the banks of the southern tributaries of the Amazon, and on the islands in the main stream. Some of the northern tributaries have not been explored. Cocoa and Brazil Nuts are the chief exports after rubber, but they are of small importance compared to it; and although the region produced Rice of excellent quality it is no longer cultivated, as all the labour is absorbed in the rubber industry, and the people live almost wholly on imported food.—("Times.")

HARDY NYMPHÆAS.

(Concluded from page 141.)

BEFORE we describe in detail the results of M. Marliac's work, a feature common to several of his novelties should be mentioned—their wonderfully pretty foliage. Several of them would be worthy of cultivation as foliage plants. The leaves are spotted and marbled with different shades of brown and reddish brown on a ground of the familiar green of *N. alba*. This is true especially of *N. Marliacea flammea*, *N. pygmæa helvola*, *N. Andreana*, and others. Again, in the case of some, the leaves push one another out of the water, revealing unexpected and attractive markings on the reverse side of the leaf.

The last variety described (on page 140) was *N. odorata rosea*, syn. *N. o. rubra*. In the hands of M. Marliac this has been much improved. He has sent out *N. o. rosacea* and *N. o. exquisita*, both of which have superior flowers to the older variety. The former is larger, with more petals, symmetrically arranged; the colouring is unchanged, but the flower expands more fully, and emits a pleasant perfume. The latter is somewhat smaller than *N. o. rubra*, but the colour is much deeper, described as rose carmine, softening towards the tips of the petals, and not becoming pale. It flowers freely when established, and is well worthy of cultivation.

N. ODORATA SULPHUREA is larger and more vigorous than the other odorata varieties, resembling in this particular the *Marliacea* type. Its foliage is spotted with reddish-brown, and it flowers with great freedom, though not before the end of July or beginning of August, being in this respect unique. It is also exceptional amongst hardy Nymphæas in the formation of its flower, the petals being stellate, closely resembling the well-known blue Egyptian *N. stellata* in this respect. The colour is a clear sulphur-yellow, contrasting finely with the deeper tint of the stamens. It is a flower of great beauty, more conspicuous because borne on long stems some inches above the surface of the water.

N. O. S. GRANDIFLORA is similar to the preceding, but slightly stronger. It is quite as free flowering, and produces flowers nearly 8 inches in diameter.

N. MARLIACEA ALBIDA is certainly the finest white variety, growing as it does with all the vigour of *N. tuberosa*, and at the same time producing larger and finer flowers. We have them 9 inches in diameter, but this has been exceeded elsewhere. It is also very floriferous. The colour is whiter than that of *N. alba*; sometimes there is a suffusion at the base of the outer petals. Seen from afar the blooms of this variety are very conspicuous—distinct white specks on the surface of the water.

N. MARLIACEA CHROMATELLA, also known as *N. tuberosa flava*, is similar to the last, but produces splendid flowers of a canary-yellow colour (fading slightly with age), not so large as those of *N. M. albida*, but equally beautiful, and freely produced. The young foliage is elegantly marbled and bronzed.

N. MARLIACEA CARNEA is a variety very similar to *N. M. albida* in habit of growth. It is equally desirable, and should be in every collection. The plant is usually covered with large flowers of a pale flesh coloured tint.

N. MARLIACEA ROSEA is almost described by a description of *N. M. carnea*; but it is usually a slightly smaller flower, and decidedly deeper in colour, the flesh-tint having given place to pale rose. The distinctness is more apparent when the flower is viewed from above; the colour is then seen to extend throughout the flower more than is the case with *carnea*, as well as being deeper. The petals are blunter than in the case of the latter variety.

N. MARLIACEA RUBRO-PUNCTATA is a newer and choicer variety, which promises to equal the rest of the type in robustness and vigour. The colour is a deep vinous red, suffused with purple, and spotted or blotched with carmine; the stamens are bright orange in colour.

N. MARLIACEA FLAMMEA is another magnificent hybrid, with large flowers, reddish amaranth in colour shaded with whitish tints; the stamens are deep orange.

N. ANDREANA has rather incurved flowers of average size and deep red in colour, tinged with violet when well developed. Planted here in the spring of last year, two dozen blooms were counted this year upon it, open at the same time.

N. ROBINSONIANA is similar to the last in habit and shape of flower, but the colour is vermilion red on a yellow ground. This variety has a great profusion of handsome foliage and a sufficient quantity of flowers. The stamens are deep orange, and the leaves spotted with purple.

N. SEIGNEUR ETI is a compact variety with rather small flowers, foliage very erect, and, out of the water, spreading rapidly. The colour is pale rose or carmine on a yellow ground.

N. AURORA, a very fine variety, with tints varying from rose yellow to deep red. Said to be free and constant.

N. IGNEA has been compared to the *Aurora borealis*. The colour of the petals is a reddish magenta, the stamens being orange red.

N. LUCIDA produces flowers of large size; in colour pale pink, deepening with age to a rosy violet. The leaves are well marked and spotted.

N. SANGUINEA is a choice variety and scarce. When properly developed it is deep blood red, very dark, and singularly rich in colour.

N. ELLISIANA is a grand variety, producing large flowers of an intense reddish purple colour, which deepens from day to day during the four days in which the quality is maintained. This is one of the most promising kinds.

N. GLORIOSA is probably the finest of all the red varieties, and indeed of all that M. Latour-Marliac has raised. In size it promises to equal *N. M. albida* itself. The colour is bright rose, changing to brilliant carmine. This variety has not yet been seen at its best in this country, and it requires time to get thoroughly established. At present it is scarce and very expensive—the price is almost prohibitive.

N. LAYDEKERI ROSEA was one of the first of the new hybrids, and still worthily maintains its position. Its period of flowering extends almost from May till October. The colour is a vivid carmine rose, pale at first, but intensified by age. This is one of the most suitable kinds to plant in a limited space. It does not make fresh crowns, and is therefore not readily propagated.

N. LAYDEKERI LILACEA has elegant rosy lilac flowers, shaded with bright carmine and golden yellow stamens. It is sweetly scented.

N. LAYDEKERI PURPURATA produces freely its very symmetrical flowers. The colour is vinous red, crimson towards the centre.

N. LAYDEKERI FULGENS is reported to be a grand variety of rich colouring. An intense rosy purple.

N. PYGMÆA HELVOLA is truly a miniature variety. The leaves are small and well marked. The flowers, produced in abundance, are also small and of a pale sulphur yellow colour. Very attractive and sweetly scented.

N. CAROLINIANA NIVEA and *N. C. PERFECTA* are both good varieties, extra double, with long narrow petals, and sweetly scented. The former has large white flowers, and the latter is flesh coloured.

N. FULVA is free flowering, and in colour is a pale yellow with touches of red. It can scarcely be called a pretty variety.

CERTIFICATED VARIETIES.—Certificates have been awarded by the Royal Horticultural Society to the following varieties:—*N. Marliacea chromatella* (F.C.C., 1895); *N. Laydekeri rosea* (A.M., 1895); *N. odorata rosea* (A.M., 1895); *N. Robinsoniana* (F.C.C., 1896); *N. Marliacea carnea* (F.C.C., 1897); *N. Marliacea albida* (F.C.C., 1897); *N. Ellisiana* (A.M., 1897); *N. Marliacea flammea* (F.C.C., 1897); *N. gloriosa* (F.C.C., 1898); *N. odorata rosacea* (F.C.C., 1898); *N. lucida* (A.M., 1898).

SELECTIONS.

Select lists of varieties adapted for particular purposes may be useful to those intending to commence their culture. The rarer and very expensive varieties will be excluded from all but the first list.

1, *Six best red Water Lilies hitherto sent out (in order of probable merit).*—*N. gloriosa*, *N. Ellisiana*, *N. sanguinea*, *N. ignea*, *N. Marliacea flammea*, and *N. lucida*.

2, *Twelve best varieties to plant as a beginning in an ordinary pond or lake.*—*N. Marliacea albida*, *N. Marliacea carnea*, *N. Marliacea chromatella*, *N. odorata rosacea*, *N. o. exquisita*, *N. o. sulphurea grandiflora*, *N. caroliniana nivea*, *N. perfecta*, *N. pygmæa helvola*, *N. Laydekeri rosea*, *N. L. lilacea*, and *N. L. purpurata*.

3, *Six robust varieties suitable for deep water.*—*N. Marliacea albida*, *N. M. carnea*, *N. M. rosea*, *N. M. chromatella*, *N. odorata sulphurea grandiflora*, and *N. tuberosa*.

4, *Six small varieties adapted for fountains and aquaria.*—*N. Laydekeri rosea*, *N. L. lilacea*, *N. Seigneur Eti*, *N. pygmæa*, *N. pygmæa helvola*, and *N. odorata exquisita*.—JAMES HUDSON, *Gunnorsbury House Gardens*.

[The photograph of Mr. Leopold de Rothschild's Water Lilies, which are grown so well and described so accurately by his gardener, was taken by Mr. J. Gregory of Croydon, himself a gardener, and we congratulate both these gardeners on the excellence of their work.]

AN HOUR AT CHEVENING PARK.

THERE is something suggestive of a well-to-do London suburb about Sevenoaks, particularly in the neighbourhood of the railway station. The smart up-to-date look about the villa residences is evidence that prosperous city men have chosen this charming district as their place of abode, and the rate at which habitations of a similar character are springing up goes to prove that their example is being followed. By the time the railway is left behind and Riverhead is reached you are almost clear of the modern villa; at Chipstead you have forgotten all about it, and when the little gathering of old-fashioned houses, with the quaint old church, which form the village of Chevening, appear in sight you feel sure that any effort on the part of the modern architect would be out of place there.

Doubtless the tiny village and the picturesque church are not without their history, and to all intents and purposes time has made few alterations. There is something attractive about the little flower-surrounded lodge which stands close to the church, the well-kept carriage drive, and the gates marking the entrance to the domain within, but from the road itself all appearance of a mansion is hidden by a wealth of timber which is one of the characteristics of this part of Kent. When through the gates and round the bend of the drive, however, supposition develops into reality, for there, commanding a view over a fine stretch of scenery made up of hill and valley, water and timber, stands the country home of Lord Stanhope, and close by is the garden under the management of Mr. C. J. Sutton.

You may look in vain for specialities at Chevening Park, speaking horticulturally, for it is, perhaps, safe to say that they do not exist. A walk through the gardens provides ample evidence that Mr. Sutton succeeds admirably in supplying the wants of a large establishment. No doubt the afternoon of an August day is a time when one would expect to

looked cool and refreshing in the heat of the summer day. In a landscape without water there is always something wanting, but here there is no ground for such a complaint, as the lake stretches away till it appears to lose itself in the woodland beyond. A shady winding walk runs all round, and though here gardening skill is not brought much into play, the walk by the lake is one of the features of Chevening.

Gardeners are sometimes at a loss to know what to grow for the summer adornment of conservatories so erected near mansions as not to be conducive to the welfare of many flowering plants. If any readers of these lines are in such a quandary I would suggest that they follow Mr. Sutton's example and grow *Campanula pyramidalis*, blue and white, a plant which has no superior for this purpose. Large specimens, with several spikes clothed with bell-shaped flowers, looked charming in the conservatory on the day of my visit, and gave ample proof of the usefulness of these old-fashioned plants. The cultivation is simplicity itself. Young plants raised from seeds are planted in the



FIG. 34.—WATER LILIES AT GUNNERSBURY HOUSE.

see a flower garden looking gay, and the word hardly does justice to the brilliancy of colour on the beds under the windows of the mansion. Yellow *Calceolarias* were a picture, and one might look in vain for "gappy" places and diseased plants. Past experience of *Calceolaria* troubles led me to be inquisitive as to treatment; but the explanation, if such it can be called, was brief, practical, and to the point. Summed up in a few words, the secret of Mr. Sutton's success with *Calceolarias* is—no coddling and early planting. And it is extremely likely that if plants in the early spring were transferred to the beds instead of being allowed to remain in a crowded state in frames till bedding proper begins, there would be fewer complaints about *Calceolarias* dying off.

It was too late for the *Roses*, they were over. All except *Crimson Rambler*, dotted about here and there trained to pillars and tree stumps. Its glory was on the wane, but had not entirely departed, and though one has got so accustomed to admiring its wreaths of crimson flowers, to see it as it was in the gardens at Chevening, thoroughly at home, and in keeping with the surroundings, meant that another burst of eulogy was merited. It was something of a relief to turn from the masses of gaudy colour on the flower beds and rest the eye on the stretch of green turf that slopes down to the edge of the lake, the placid water of which

kitchen garden till the spikes make their appearance, when they are taken up carefully and potted. They remain outside till required, and when placed under glass they soon make handsome specimens. Along a border in the kitchen garden was a fine bed of *Carnations* of the best known sorts just in the full beauty of their flowering season. The popularity of the *Carnation* as a fashionable flower is undisputed, and in many gardens where only a few of the old Clove-scented sorts were grown unique collections may now be seen. The owner of Chevening is a *Carnation* lover, hence the extensive cultivation of the flower.

Among the many features that interested me during the hour's visit was a collection of dessert *Gooseberries* grown as cordons. Perhaps the qualities of this fruit for dessert purposes are under-rated, and berries of the larger kinds grown on the cordon system for the purpose named are invaluable. According to Mr. Sutton's version, the best yellow sort he grows is *Stella*, a variety of excellent flavour. *Dan's Mistake* is a good red, as also is *Companion*, of the same colour. The white varieties are not so acceptable to the palate as the reds and yellows, and among the best of the section are *Alma* and *Snowdrop*. In justice to the old sorts grown for so long as bushes, it is only fair to say that the flavour of

the well-known Yellow Rough is unsurpassed by any later addition. Sampling Gooseberries is a pleasant enough occupation until one has had enough, and then it gets a little tedious, particularly if the list of varieties be long.

There has been a series of renovation in the vineries during recent years with good results, and the healthy appearance of a house of newly planted Muscats augurs well for the future. With a continual and heavy strain on his resources Mr. Sutton has few opportunities for exhibiting, but at the recent summer show at Sevenoaks he acquitted himself very creditably with plants, flowers, and fruits. Utility is plainly written in every section of the gardens at Chevening Park, and this, with order, neatness, and good cultivation were impressions gathered during a brief look round. The time was all too short, and in the quiet of evening as I passed through them the quaint old villages mentioned above looked more antiquated than before.—H.

NOTES ON ALPINE FLOWERS.

(Continued from page 104.)

ANDROSACE CARNEA.

CHARMING flowers are the Rock Jasmines, and no alpine flowers are greater favourites than they in the choice collections of the day. The one under notice, although not so rare as some, is yet not too frequently seen, and is a delightful species for growing on a moist but sunny slope in gritty peat soil. It is a native of Switzerland, and was introduced into this country about 1768. If allowed to remain undivided it will form nice tufts, and when it flowers, in July, the pink or rose flowers, with their yellow eyes, look charming on the little plants. The variety named *eximia*, from the Auvergne Alps, has deeper coloured flowers, and the leaves in rosettes. I prefer to have these *Androsaces* jammed between stones when planting.

LYCHNIS ALPINA.

The Alpine *Lychnis* is a beautiful little plant, which is, however, not very long lived in many rockeries. This is, I am of opinion, due to the want of moisture at the roots. In very dry soil it becomes weakened. This is a frequent cause of loss among alpine flowers, many of which, while resenting much rain, only thrive when they have a good supply of moisture at the root. *L. alpina* grows only from 4 to 6 inches high, and forms a dense tuft of small leaves, which bear some resemblance to those of the Thrifts. The flowers are in clustered heads, and are pink in colour. This is another plant which I prefer to grow between stones. These retain moisture, and prevent drought from affecting the roots to the same extent. *L. alpina* is rather widely distributed in the Northern and Arctic regions. I have had plants sent me from the North of Scotland, and have raised from seed what was called *L. lapponica*, which on flowering could not be distinguished from the recognised *L. alpina*. This alpine may be raised from seeds or propagated by cuttings.

OURISIA COCCINEA.

The scarlet *Ourisia* is one of the most brilliant of all our rock garden flowers. It is unfortunate, however, that all of us cannot succeed in inducing it to flower, and the writer has known of it being in gardens for years without producing a bloom, while in other places it delights everyone by its vivid scarlet flowers. As I write memory recalls one garden where it was seen in great perfection, the rich soil and moist atmosphere supplying its wants admirably. Although it comes from Chili, *O. coccinea* seems quite hardy in almost all districts. For the benefit of those who do not know it, a more detailed description than usual may well be given. It is of creeping habit at the roots, but not so much so as to become troublesome, and has its leaves almost all from the root, of an oval or oblong shape, and distinctly notched. The flowers are pendant, and produced in clusters on stems 6 to 8, and even 9 inches high.

On reference to the Kew Hand-list there appear to be only two species of *Ourisia* in cultivation at Kew, but that named is the only one with which I have practical acquaintance. It should have a moist peaty soil, and most authorities agree that it ought not to have full exposure to the sun. Generally speaking, this is sound advice; but I have seen it doing splendidly in at least one garden in very sunny positions. Drought is, however, very detrimental, and unless an adequate supply of moisture can be secured this *Ourisia* should not be attempted.

ONOSMA ALBO-ROSEUM.

All of us have at times to admit that there are some plants which baffle us, and, try as we will, fail to thrive in our hands. This is one of those, and it is with regret that the writer admits it, and thinks it well to warn others of the difficulties which await those who try to grow this very beautiful Borage-wort. It is, I believe, a plant which can only be kept by constant propagation, either by seed, which, so far as I am aware, does not ripen in our climate, or by cuttings from healthy shoots. The difficulty of keeping *Onosma albo-roseum* arises from its becoming hard and woody with a rusty appearance about the leaves; the shoots then die off. This is unfortunate, as the long tubular rosy white flowers in clusters are very beautiful. At one time I was of opinion that damp overhead was the cause of the failure of this *Onosma*, but further experience has modified this view, and I think it is not a long-lived plant, but requires frequent renewal. I have had seeds sent from Asia Minor, but these did not germinate well.—ALPINUS.

(To be continued.)

RAVENSCOURT PARK.

WHAT a healthy, interesting, and instructive place of resort this, the youngest of West End London parks, has proved itself to be to the inhabitants of the surrounding districts—including Hammersmith on the one side, and Turnham Green and Chiswick on the other—since the London County Council purchased the mansion and 34 acres of land adjoining some six or seven years ago. And what a change has been effected during the interval elapsing between then and now! Under the able management of Mr. W. B. Gingell all traces of brickmaking having been carried on in the above mentioned area have been completely removed.

The landscape Superintendent, while preserving a good open space, nearly in the centre of the park, for the free recreation of the public, has contrived to provide a great variety of charmingly interesting floral and arboreal objects for the edification of the thousands of people who daily visit and lounge about in the park, especially during the summer and early autumn months. Banks of irregular height and outline have been formed and planted immediately inside the boundary line and fence intervening between the several entrances to the park, and in some cases certain portions of the interior are similarly dealt with, and with admirable effect.

These banks and clumps are planted with a variety of suitable trees and foliage and flowering shrubs, varying in height and general character. Herbaceous plants and irregular patches (large) of Pinks, Carnations, Mignonette, Pansies, Pentstemons, Antirrhinums, Begonias, Godetias, and Spiræas together made a pleasing foreground and edging to the trees and shrubs. A judicious disposition of good sized bushes of *Ligustrum marginatum aureum* (Golden Privet) among the shrubs had a good effect. The numerous large specimen trees of Elm, Lime, Cedrus Libani, and huge Thorn bushes give age and dignity to the place. The circular space underneath each of the aged Cedars, and corresponding in size with the spread of branches, is carpeted with Ivy. We may here remark that Mr. Gingell makes a free and successful use of London Pride (*Saxifraga umbrosa*) as a means of clothing bare places under trees. The small lake near the bandstand and refreshment rooms, with its two miniature islands, swans, and other aquatic birds, lends variety as well as charm to the place.

Mention may briefly be made of the manner in which the most important flower beds are filled. Two oblong beds, having an outer edging of blue Lobelia, next a band of *Funkia viridis marginata*, and an inner circle of white Antirrhinum (Queen of the North), the centre being filled with well grown plants of a dark-flowered Fuchsia (Scarcity) about 4 feet high, set in a groundwork of blue Lobelia, had a telling effect, as also had seven circular beds, 6 feet in diameter, cut out of the green sward in a circular space about 20 yards across, and enclosed by a low iron fence, the centre bed being filled with bronze-foliaged and crimson-flowered Cannas, encircled by a broad band of golden-foliaged Fuchsias, with a ground of *Agathæa cœlestis variegata*. The pale blue star-like flowers of this plant, borne on slender stems thrown well above the foliage, had a very pleasing effect when contrasted with the other occupants of the bed. The six beds forming an outer circle to the centre one are alternately filled with Harrison's Musk, with "dot" plants of *Grevillea robusta*, edged with *Ajuga reptans purpurea* and red Pentstemons having a light pinkish throat, with a groundwork and edging of *Kœnigia maritima variegata*.

Two oblong beds, occupying a fenced-in space near the lake, had a pleasing effect, one being filled with *Abutilon Thompsoni variegatum* set in a ground of *Coleus Verschaffelti* edged with *Funkia argentea marginata*, the whole being enclosed by a good band of a dark flowered Pansy. The other bed was filled with a white-eyed magenta-coloured Viola with "dot" plants of Bridal Wreath (*Francoa ramosa*), and Chrysanthemums, the latter for producing a floral display later on.

A short distance from the last-mentioned beds, and right in front of visitors entering the park from, I think, the direction of Turnham Green and Chiswick, is situate the finest bed in the park. It partakes of the character of a crown in the centre, extending and developing into a serpentine figure on each side, the whole forming one undivided bed. This is planted throughout with a dark orange-flowered Begonia (the name of which I was unable to obtain at the time), the plants being set in a groundwork of the dwarf-growing, white-flowered, *Kœnigia maritima variegata*, green narrow-leaved Dracænas from 2 to 2½ feet high being effectively employed as "dot" plants, a broad band of blue Lobelia, with an outer edging of *Echeveria secunda glauca* completing the floral picture.

The beds in the enclosed space near the reading rooms (into which laudable use the mansion referred to above has been converted) also deserve notice. Three slightly oblong-shaped beds in centre, one filled with the Queen of the North Antirrhinum (white), and those on either side with scarlet flowered Cannas and edged with a good band of *Funkia ovata undulata maculata*. The circular beds surrounding the above-mentioned ones are, alternately with pink-flowered Begonias, edged with blue Lobelia and Echeveria, and blue Lobelia edged with Echeveria with "dot" plants of *Phalangium argenteo-lineare*. Two feathery pillars of the Virginian Climber (*Ampelopsis hederacea*) appear to guard with admiration this pretty floral section of this well-kept west central London park.

I need only say, in conclusion, that the occupants of the several beds were looking their best at the time of my visit (August 23rd), and that Mr. W. B. Gingell is to be complimented upon the successful manner in which every detail of the good work in Ravenscourt Park appears to have been carried out.—H. W. WARD, *Rayleigh*.



BULBOPHYLLUM AMPLUM.

THE Bulbophyllums are grown more as botanical curiosities than anything else, as they are much more interesting than they are beautiful. To this must be ascribed the reason that "W. E. R." has seldom met them in his wanderings. Nevertheless they are to be found, especially in such choice collections as that of Sir Trevor Lawrence, Bart., at Burford Lodge, Dorking, for whom Orchids are so cleverly grown by Mr. W. H. White. The flowers are small as a rule, but some of the species are large. As Mr. Williams says, in his Orchid Manual, "the flowers are in many cases curious, particularly the labellum or lip, which is articulated and movable, the least breath of air or the slightest cause of motion being sufficient to set up a tremulous or dancing movement in this organ." The species amplum, about which you ask, was shown some years ago by Sir Trevor Lawrence at Westminster. The flowers (fig. 35) are large for a Bulbophyllum. The sepals and petals are creamy yellow dotted with bright red; the broad lip is somewhat ovate in form, and of a bright maroon tint.

ODONTOGLOSSUM CRISTATELLUM.

THE flowers of this species are not large, but very pretty, the golden tint of the best varieties thickly overlaid with purple-brown being rich. It is not by any means common, though it has long been under cultivation, Mr. W. Bull of Chelsea having imported it some twenty years ago. It is a purely alpine species, and being of medium habit thrives best in pans or baskets suspended not far from the roof glass in the coolest house. Water freely at the roots all the year round, and syringe the foliage lightly in hot weather.

ONCIDIUM INCURVUM.

The pretty rose and white flowers of this Oncidium are so gracefully set on the ample spikes, and last so long in perfect order, that I should be very loth to part with it for many another large and showy species. It is so easily grown, too, thriving and getting larger every season in a cool fernery or some such place just as well as in an Orchid house proper. It should be grown strongly in the spring, and when the flower spikes are open from the old pseudo-bulbs the younger growths are nearly finished, so that the removal to a drier house while in flower has the dual effect of ripening the young pseudo-bulbs and conserving the blossoms.

EPIDENDRUM NEMORALE.

This is a very fine species when in good condition, and worthy of a place in all collections. Not the least of its merits is that of producing handsome blossoms at a time when Orchids are not at their best, and they have the additional recommendation of lasting well in good condition. It is not a fastidious plant as to temperature, some growers recommending a place in the East Indian house with such species as *E. bicornutum*, and the fact of its thriving well there proves that it is not of so difficult a habit as has been thought. With me it has always done better in the intermediate house with such species as *E. prismatocarpum*.

The treatment of the roots is very simple, and it is only necessary to give a rough open description of compost, and to water in accordance with the state of growth. At the back end of the season it is wise to allow plenty of sunlight to reach the plants, and so to consolidate their tissues, making them more able to withstand any slight check in winter. The flowers occur on erect racemes, and are a pretty mauve tint on the sepals and petals, the lip having deeper coloured lines of reddish purple. It is a native of Mexico, and not so well known as it should be, though it was introduced by Messrs. Loddiges as far back as 1843.

DISA GRANDIFLORA.

Though one of the most beautiful of Orchids, this Disa is not everywhere a success under cultivation, and is not in consequence so much grown as it deserves. No doubt it is a more difficult plant to grow than many, and yet it is singular how well it thrives in some places, where apparently the conditions are not more than usually favourable, and no particular care is exercised in its culture. The plants delight in a cool moist atmosphere the whole year round, with as much light as possible, and a constant supply of air always moving about the foliage.

Apparently this is easy enough to provide, but there are difficulties

in the way, as we all know who have tried it. Light, of course, is easily managed, the great variety of shading materials now on the market being far superior to the old garden mat, or whatever comes to hand. But in hot summer weather it is not so easy to keep plenty of moisture in a house, and at the same time abundance of air. But the cooler the house, the more air and atmospheric moisture there is present, the better *D. grandiflora* will thrive. Never shade the plants when not required, and when the weather is hot use the syringe freely about the young growths, not giving a heavy douche of water, but by keeping the finger on the nozzle forcing it out in a fine spray.

The best time to repot *D. grandiflora* is after the flowers are past. There is no need of annual repotting, but too long a time in the same material is not advisable. Use sphagnum moss two parts to one each of peat fibre and loam, adding thereto plenty of crocks and broken charcoal. Drain the pots or pans well, and work up the plants as evenly as possible, surfacing the compost with sphagnum moss to prevent too rapid drying. In a cool house where the conditions given above are readily provided this Disa does well planted out in a prepared border, and it is surprising how rapidly it can be increased by means of offshoots when it takes with a will to such a position.—H. R. R.



FIG. 35.—BULBOPHYLLUM AMPLUM.

HORTICULTURAL SHOWS.

BATH.—AUGUST 31ST AND SEPTEMBER 1ST.

AFTER several financial failures, owing to inclement weather, the Bath Floral Fête Committee has at last been rewarded with two favourable days, and a well-earned success has to be chronicled. Much credit for good work done in the present and past years is due to Mr. R. B. Cater, the popular Chairman of the Bath Society, and to the energetic Secretaries, Messrs. B. R. E. Pearson and W. Jeffery.

Fuchsias invariably occupy the place of honour in the Bath schedule, and nowhere else are they to be seen in such large numbers or to greater advantage. The best nine varieties were shown by Mr. G. Tucker, Trowbridge, who staged grand specimens, 9 feet high, of Charming, Her Majesty, Western Beauty, Final, Arabella, Mrs. Bright, Bountiful, Doel's Favourite, and a distinct and good red variety of his own raising, Diamond Jubilee, which should become popular for exhibition purposes. Mr. J. H. Willcox, Bath, took the second prize with dwarfier, heavier plants, perfectly flowered. For six varieties, Mr. A. Young, gardener to Lady Pitman, was first, Mr. H. Peacock, Trowbridge, second, and Mr. W. A. Burford, Weston, third, all showing fresh, well-flowered pyramids of popular varieties. The best four varieties were shown by Mr. G. Podger, second Mr. J. Lord. In the single specimen classes Messrs. G. Tucker, A. Young, and J. H. Willcox took the prizes.

Fairly good prizes were offered for stove and greenhouse plants, and for eighteen specimens Mr. J. Cypher, Cheltenham, was easily first, showing in his well known excellent style. Second Messrs. E. S. Cole & Son, third Messrs. J. B. Wood & Son. The closest competition was in the class for six flowering plants, Mr. Cypher just winning. Mr. G. Tucker was a close second; Mr. G. Hallett, Bath, took the third prize. For three specimens Mr. H. Peacock was first; Messrs. J. Stoke & Sons, Hilperton, second; and E. S. Cole & Son third. A grand plant of *Ixora Duffi*, carrying fourteen large trusses of bloom, gained Mr. Cypher the first prize for a single stove plant, Mr. G. Tucker being a close second with *Dipladenia Brearleyana*. In a corresponding class for a greenhouse plant Mr. Tucker was first, and Mr. Cypher second. Heaths, Coleuses, and Lilliums were all well staged.

Groups arranged for effect on a space not less than 100 square feet constituted the principal feature in another large tent. Four competed, the first prize going to Mr. J. Cypher for one of his light and beautiful arrangements; second to Mr. W. Tanser, gardener to R. B. Cater, Esq., Bath, who also displayed excellent taste in the arrangement of good materials; third Messrs. E. S. Cole & Son. The banks of twelve specimen

Ferns were most creditable to the exhibitors, Messrs. G. Tucker, R. Palmer, and W. J. Stokes & Son, who took the prizes in the order named. Very good also was the competition with six Ferns, Mr. Truckle, gardener to T. Carr, Esq., was first; Mr. A. Cross, gardener to H. O. Wills, Esq., second; and Mr. R. Denton, gardener to the Rev. Yorke Fausset, third.

Begonias were well shown by Messrs. G. Tucker; E. Dagger, gardener to Mrs. Simms; H. Chislett, gardener to E. T. D. Foxcroft, Esq.; and A. Young. The best six flowering Cannas in pots were shown by Mr. A. A. Walters, Bath; Messrs. G. Tucker and W. J. Mould were most successful in the classes for Zonal Pelargoniums, Mr. J. F. Hayward had the finest Cockseombs, and Gloxinias were well shown by Messrs. G. Tucker and G. Woodiwiss. A plant of the showy Croton Nestor gained Mr. Cypher the prize for a new or rare plant.

Cut flowers were very numerous, and of excellent quality throughout. The best display of Gladioli was made by Mr. S. Bird, gardener to F. A. Fox, Esq., Wellington; second, Mr. J. Mattock, Oxford. For twelve varieties Mr. F. Hooper, Bath, was first; Mr. G. Humphries, Chippenham, second; and Messrs. Jarman & Co., Chard, third. For twenty-four Dahlias Mr. G. Humphries was first; Messrs. Keynes, Williams & Co., Salisbury, second; and Mr. W. Treseder, Cardiff, third; while for twelve varieties Messrs. J. Cray & Sons, Frome, were first; F. Lindsay, Frome, second; and G. Densley third. In the other Dahlia classes Messrs. Humphries, Keynes, Williams & Co., and J. Burgess were the most successful exhibitors.

Mr. J. Mattock was first and Messrs. Perkins & Sons, Coventry, second for twenty-four Roses; Mr. Mattock first and Dr. S. P. Budd, Bath, second for Teas; and Messrs. G. Garraway and A. A. Walters were respectively first and second for twelve mixed Roses. The best twenty-four bunches of Zonal Pelargoniums were shown by Messrs. G. Cooling & Sons, Bath; second, Mr. W. J. Mould. There was an extra large display of Asters, and with these the principal prizewinners were Messrs. C. H. Vickery, J. Mabbett, Henry Cousins, F. Lindsay, and F. Hooper. For stove and greenhouse flowers Mr. G. Hallett was first, and Mr. G. Tucker second. One of the best displays of herbaceous seen anywhere this season was made by Mr. A. A. Walters, the second prize going to Mr. W. Treseder, who also had a good assortment. In the other cut flower classes the principal prizewinners were Messrs. G. Garraway, W. Eaton Young, T. Elly, G. Wood, and Henry Cousins. Messrs. Perkins & Son were first for bouquets; second, Mr. W. Treseder.

Fruit had a tent wholly set apart for it, but was not so numerously shown as usual, while in some instances the quality was not of high standard. Three competed with a collection of eight dishes, Mr. W. Strugnell, gardener to Colonel Drexel, Rood Ashton, adding another success to his already well extended list of winning exhibits. He showed good Alicante and Muscat of Alexandria Grapes, a handsome Taunton Hero Melon, good Sea Eagle Peaches, Pineapple Nectarines, Henskerk Apricots, Washington Plums, and Governor Wood Cherries. Mr. G. Pymm, gardener to Mrs. Gouldsmith, Trowbridge, was second; and Mr. T. Wilkins, gardener to Lady Theodore Guest, Henstridge, third.

What has in previous years been the most attractive class, that for eight bunches of Grapes in four varieties, did not fill well on this occasion, only two competing. Mr. W. Taylor, gardener to C. Bayer, Esq., Forest Hill, was easily first, showing handsome well-finished bunches of Black Hamburg, Madresfield Court, and Gros Maroc, fairly good Muscat of Alexandria completing the exhibit. Second, Mr. W. Allen, gardener to W. Marsh, Esq., Bath. Seven growers staged three bunches of Black Hamburg, the Judges on this occasion awarding the prizes to large clusters and berries, rather than to highly finished but less weighty bunches. Mr. D. E. Taylor, Bath, was first; Mr. C. Smith, gardener to B. B. Cave, Esq., Malvern, second; and Mr. G. Sutton, gardener to W. A. Todd, Esq., third. In the any other black class Mr. W. Taylor was first with neat well-finished bunches of Madresfield Court. Second, Mr. C. J. Fewtrell, gardener to C. C. Tudway, Esq., Wells. Third, Mr. Carpenter, gardener to A. R. Bailly, Esq., Frome. The last named was well first for admirably ripened clusters of Muscat of Alexandria; second, Mr. W. Taylor; third, Mr. C. Gibbons, gardener to C. W. Mackillop, Esq., Bath. For any white variety Mr. J. Marshall, gardener to J. Dole, Esq., Clifton, exhibited perfect bunches of Buckland Sweetwater, and was first; second, Mr. G. Sutton; third, Mr. C. Smith.

Melons were numerous, but not many of them were of good quality. For a green-fleshed variety Mr. H. Chislett was first, showing Sutton's Imperial Green-fleshed; second Mr. J. Mallett, Chippenham; third Mr. J. Wilton, gardener to Captain Hodge. The best scarlet-flesh Melon, a good fruit of Windsor Castle, was shown by Mrs. Greaves; second Mr. T. Parrott, gardener to R. Huth, Esq.; third Mr. Chislett. Peaches and Nectarines were fairly well shown. The principal prizewinners were Messrs. A. Cross, J. Adams (gardener to W. Powell, Esq.), W. Strugnell, J. Stevens (Newport), and T. Truckle. Plums were shown remarkably well in several classes, and there was a good display of Apples, Pears, and Filberts. The prizewinners included Messrs. A. Keevil, gardener to E. D. Bourdillon, Esq.; W. Nash, gardener to the Rev. R. Gordon, Frome; R. Warren, Bitton; C. Smith, G. Horsell, Bath; W. Brimble, Bath; W. Fisher, Batheaston; T. Wilkins, G. Garraway, C. J. Fewtrell, and G. Pymm.

Vegetables, though not particularly numerous, were of good quality, a tendency, however, to coarseness prevailing. Mr. T. Wilkins took three first prizes for collections, including the specials given by Messrs. Sutton and Sons and Webb & Sons. Other prizewinners were Messrs. G. Garraway, T. Parrott, J. Hall (Wells), and J. B. Woods & Son. Tomatoes were seen to advantage, the first prize going to the Frome Flower

and Fruit Co. for twelve superior fruit of Rolfe's Exhibition; second Mr. J. Wilton; third Mr. W. J. Mould.

Non-competitive exhibits were both numerous and attractive. Messrs. Cooling & Sons had a bank of plants and cut flowers in groups, and also a good assortment of Apples, Pears, and other fruits from their Bath nurseries. Mr. J. Mattock, Oxford, arranged a good display of garden Roses. Mr. J. B. Blackmore exhibited a grand bank of Begonia blooms on a moss background. Messrs. J. Cray & Sons showed well-grown Cactus and other Dahlias. Messrs. Webb & Sons, Stourbridge, staged cut blooms of herbaceous, bulbous-rooted plants, and annuals.

NATIONAL DAHLIA SHOW.

CRYSTAL PALACE, SEPTEMBER 2ND AND 3RD.

THE annual gathering of the National Dahlia Society proved to be quite up to the average, in spite of the drought that has been felt keenly in many parts of the country. The Cactus section appears to be progressing satisfactorily, the improvement in the type being noticeable in all the classes. The Show, Fancy, and Pompon sections seem at a standstill, while the single varieties appear to be sliding backwards at a somewhat rapid rate, the classes provided for them being poorly patronised.

In the premier class for sixty blooms, Show and Fancy, distinct, Mr. J. Walker, Thame, proved the victor with a very even stand. The varieties employed were—*Back row*: Wm. Powell (grand), Rev. J. Gooday, Sydney Humphreys, Arthur Rawlings, S. Mortimer, Florence Tranter, D. Cornish, Chieftain, Arthur Ocock, Shottesham Hero, Purple Prince, Golden Gem, Rebecca, Perfection, Jas. Cocker, Buttereup, Wm. Keith, Hercules, Dandy, and Kathleen. *Middle row*: J. T. West, Miss Cannell, Duke of Fife, J. C. Vaughan, Mr. Glassecock, John Standish, Virginale, Dorothy, Harrison Weir, Dorothy (self), Maud Fellowes, Harry Keith, Eclipse, Shirley Hibberd, H. Turner, Hero, Muriel Hobbs, Grand Sultan, M. Campbell, and Harry Turner. *Front row*: Mrs. Every, Nubian, Mrs. Gladstone, Wm. Rawlings, Buffalo Bill, R. T. Rawlings, Duchess of York, J. C. Reid, Buffalo Bill (self), John Walker, Diadem, Mrs. J. Greaves, Royal Queen, Fred Smith, Jas. Stevens, Mr. J. R. Jefford, Victor, Mrs. Mortimer, Imperial, and Mrs. Langtry. Mr. C. Turner, Slough, was placed second with a very fresh exhibit, the best blooms were Chieftain, Henry Walton, Wm. Keith, Gloire de Lyon, Duchess of York, Major Bartlett, Pleasance, and John Walker. Mr. S. Mortimer, Farnham, third with rather weaker flowers in the front row.

For forty-eight blooms, Show and Fancy, distinct, Mr. C. Turner secured first in a class of six competitors. The blooms were—*Back row*: Jas. Cocker, Harrison Weir, Henry Walton, Mrs. W. Slack, Imperial, Grand Sultan, Geo. Rawlings, Constaney, John Standish, Maud Fellowes, Major Bartlett, Victor, Rev. J. B. M. Camm, Alice Emily, J. T. West, and Wm. Keith. *Middle row*: Miss Cannell, Dante, Goldfinch, Statesman, Hon. Mrs. Wyndham, Prince Bismarck, Earl of Ravenswood, Shirley Hibberd, Mrs. D. Saunders, Prince of Denmark, Gloire de Lyon, John Bennett, Crimson King, Clara, Duke of Fife, and Mrs. Gladstone. *Front row*: Wm. Powell, Ethel Britten, Duchess of York, M. Campbell, Goldfinder, John Forbes, John Hickling, John Walker, Arthur Ocock, R. T. Rawlings, Arthur Rawlings, Mrs. Saunders, Hope, Colonist, Flag of Truce, and Sunbeam. Mr. J. Walker was second with good specimens of Maud Fellowes, Duchess of Albany, S. Mortimer, Mrs. C. Noyes, Purple Prince, Hercules, Rev. J. Gooday, Glowworm, and Kathleen. Messrs. Keynes, Williams and Co., Salisbury, third, with neat though somewhat small flowers. Mr. S. Mortimer fourth.

For thirty-six blooms, distinct, Mr. W. Treseder, Cardiff, was the most successful competitor with a good, regular exhibit, in which Arthur Ocock, Jas. Cocker, Colonist, John Cooper, Willie Garrett, Goldfinder, Emin Pasha, Maud Fellowes, and Peacock were the most conspicuous flowers. Mr. G. Humphreys, Chippenham, secured the second place with good blooms of J. T. West, Florence Tranter, Harry Turner, Jas. Stephens, Mrs. Gladstone, and Miss Cannell. Messrs. Kimberley & Son, Coventry, were third; and Mr. M. V. Seale, Sevenoaks, fourth.

For twenty-four blooms, distinct, Mr. G. Humphreys was placed first with good examples of Harry Keith, Sunset, Jas. Stephens, Mrs. Every, and Mrs. Gladstone. Messrs. Kimberley & Son came second with larger flowers, perhaps a little coarse; Mr. M. V. Seale third; and Messrs. J. Cheal & Sons, Crawley, fourth. For twelve distinct blooms Mr. J. Stredwick secured the first position with a strong exhibit; Mr. J. R. Tranter, Henley-on-Thames, being second; and Mr. W. Baxter, Woking, third. For twelve Fancies, distinct, Mr. J. Walker was well to the fore. The most noteworthy blooms were Rebecca, S. Mortimer, Duchess of Albany, and Buffalo Bill. Messrs. Keynes, Williams, & Co. second with good Buffalo Bill, Mrs. Saunders, M. Campbell, and Gaiety; Mr. G. Humphreys third.

There were five strong competitors for the premier class in the Cactus section, consisting of eighteen bunches of six blooms each. Messrs. J. Burrell & Co., Cambridge, were first with a stand of very fresh, bright flowers, not by any means large, but well finished. The varieties were Regulus, Mrs. Peart, Starfish, Britannia, Chas. Woodbridge, Fusilier, Mary Service, Cinderella, Night, Lady Penzance, Harmony, Cycle, Lucius, Keynes' White, Fantasy, Island Queen, Arachne, and Mimosa. Messrs. Keynes, Williams, & Co. followed with a capital exhibit, which included Lady Lonsdale, Wm. Cuthbertson, Wallace, Earl Pembroke, Britannia, Chas. Woodbridge, Cinderella, Lady Penzance, Starfish, Exquisite, Night, Harmony, and The Clown. Messrs. Cheal & Sons were third, and Mr. J. Stredwick fourth.

For twelve bunches of Cactus, distinct, Mr. S. Mortimer stood out well in a keen contest. His varieties were Mary Service, Fusilier, Harry Stredwick, Keynes' White, Lady Penzance, Night, Starfish, Miss A. Nightingale, Fantasy, Britannia, Chas. Woodbridge, and Alfred Vasey. Mr. M. V. Seale was second with good sprays of Starfish, Chas. Woodbridge, Night, and Mary Service; Mr. G. Humphreys third, and Mr. H. Shoesmith, Woking, fourth.

For twenty-four blooms Cactus, distinct, Messrs. J. Burrell & Co. again led the way; their best flowers were Auburn, Orient, Chas. Woodbridge, Mrs. Peart, Britannia, Cinderella, Madge Wildfire, and Lucius. Messrs. Keynes, Williams & Co. followed with good flowers of Exquisite, Ethel, Viscountess Sherbourne, Radiance, The Clown, and Keynes' White. Messrs. Cheal & Son were third.

For twenty-four bunches of Pompons, ten blooms each, Mr. M. V. Seale secured the premier award with good even flowers, not too large. The varieties were Hypatia, Bacchus, Nellie Broomhead, Dr. Jim, Sunny Daybreak, Eva, Emily Hopper, Rosebud, Whisper, Tommy Keith, Mary Kirk, Phoebe, Lillian, Red Indian, Little Sweetheart, Douglas, Jessica, Ernest Harper, Ganymede, Distinction, Snowflake, Adrienne, Amber Queen, and Nerissa. Messrs. J. Cheal & Sons were second with good bunches of Emily Hopper, Hilda, Nerissa, Isobel, Florence Woodland, Adrienne, and Norah; Mr. C. Turner third. In the class for twelve bunches, distinct, Messrs. J. Burrell & Co. were first with good examples of Janet, Geo. Brinkman, Whisper, and Nerissa; Mr. G. Humphreys second; Mr. J. Stredwick third.

Only two competitors faced the Judges with twenty-four sprays of single Dahlias, Messrs. Cheal & Sons gaining the first place, closely followed by Mr. M. V. Seale. For eighteen varieties single, edged or tipped, Mr. T. W. Girdlestone, Sunningdale, was well ahead with a very showy exhibit; Mr. M. V. Seale being second with a well-arranged stand; and Messrs. Cheal & Sons third.

For six blooms, any *dark* Show Dahlia, Mr. J. Walker was first with Rev. J. Gooday; Mr. G. Humphreys second with Arthur Rawlings; and Mr. S. Mortimer third with the same variety.

For six blooms, any *light* Dahlia, Mr. R. C. West, Salisbury, was first with Mrs. Gladstone; Mr. R. J. Tranter second with the same variety; and Mr. J. Walker third with Mrs. Morgan.

For six *yellow*s Mr. J. Walker led with John Hickling; Mr. Mortimer and Mr. M. V. Seale followed in the order named, both staging R. T. Rawlings.

For six *red* Dahlias Mr. S. Mortimer was first with Jas. Stephens; Mr. R. C. West second with Duke of Fife; and Mr. J. Walker third with Arthur Rawlings.

There was a keen contest in the class for the six *white* blooms, all the exhibitors staging John Walker. The winners were Messrs. S. Mortimer, J. Walker, and R. C. West in the order named.

For six blooms, any other colour, Mr. M. V. Seale was first with Duchess of York.

For six blooms, any *tipped* variety, Mr. J. Walker was first with Comedian, Mr. Seale second with Mrs. Saunders, and Messrs. Frewer Bros., Stowmarket, third with Peacock.

For six *striped* Dahlias Mr. J. Walker was first with Rebecca, Mr. T. Anstiss, Brill, second with Emin Pasha, and Mr. S. Mortimer third with Duchess of Albany.

For six *edged* varieties Mr. J. Walker was again ahead with Miss Cannell, Mr. S. Mortimer second with Rosamond, and Mr. Seale third with J. T. West.

The premier blooms were Show or Fancy W. Powell, from Mr. J. Walker; amateurs' Show or Fancy Arthur Rawlings, from Mr. R. Burgin; amateurs' Fancy Frank Pearce, from Mr. R. Burgin; best bunch white Cactus Dahlia Keynes' White, from Messrs. Keynes, Williams & Co.; and the best new Cactus Lucius, from Messrs. Burrell and Co.

Messrs. T. S. Ware, Tottenham, staged an extensive display of Cactus and Pompon Dahlias. The former section were bright and well arranged, while the Pompons were represented by nearly all the standard varieties. Messrs. J. Peed & Son, Norwood, exhibited Dahlias in all sections, with a large variety of hardy flowers. Messrs. Carter, Page, and Co., London Wall, had an extensive display of Cactus Dahlias, arranged somewhat formally, including all the new varieties.

Messrs. Dobbie & Co., Rothesay, exhibited a fine display of Cactus and Pompon Dahlias. The sprays in the former section were very large, containing twelve blooms each. Britannia, Cycle, Matchless, Starfish, Beatrice, Mary Service, Miss A. Nightingale, and Island Queen were very conspicuous. The Pompons most noteworthy were Bacchus, Nerissa, Admiration, Elegant, and Locket. Mr. J. Green, Dereham, staged a collection of Cactus and Pompon Dahlias. The best varieties were Maid of Honour, Starfish, Red Rover (a magnificent red Cactus of the true type, a well-built flower), Britannia, Nero, Hercules, and Indian Prince. Mr. J. R. Box, Croydon, exhibited a fine collection of double Begonias, seedlings flowered in the open ground. The colours were very bright and varied, and the flowers large.

CERTIFICATED DAHLIAS.

Antelope (J. Burrell).—A rosy scarlet Cactus, similar in form to Fantasy.

Claribel (C. Turner).—A distinct Pompon, creamy ground with a deep rose edging.

Countess of Lonsdale (Keynes & Co.).—A rosy salmon Cactus with well curled petals.

Daniel Johnston (G. Humphreys).—A novel Show flower, deep fawn shaded rosy salmon.

Eric (T. W. Girdlestone).—Single, crimson at the base of florets, shading off to a deep rosy salmon.

Lucius (J. Burrell).—Cactus, clear bright orange, well curled florets. A grand flower.

Leslie Seale (M. Seale).—Single, crimson near the base, edged with rosy lilac.

Magnificent (J. Stredwick).—Cactus, orange buff, long curled petals. A good flower.

Mrs. Holford (J. Cheal).—Pompon Cactus, soft scarlet.

Snowflake (M. Seale).—Pompon, a good white flower with long stems

The Clown (Keynes & Co.).—A good variety, brick red tipped with white, after the Arachne type.

Watchman (Keynes & Co.).—Fancy, yellow ground heavily flaked with red. A well built flower.

WESTMINSTER.—SEPTEMBER 6TH, 7TH AND 8TH.

THE first meeting of the National Chrysanthemum Society must by classed as above the average, not as far as the Chrysanthemum flower itself is concerned, but as distinguished by the splendid display of Dahlias and Gladioli. Both these sections were well represented.

In the class for twelve bunches of Chrysanthemums, distinct, Mr. E. F. Such, Maidenhead, was the only competitor, and was awarded the second prize. The best bunches were Harvest Home, Gustave Grunerwald, Madame Marie Masse, Longfellow, and Mrs. J. R. Pitcher. The same exhibitor was placed first for six bunches, a decided improvement on the former class. For twelve blooms of Madame Desgrange, Mr. W. Perrin, gardener to C. W. Richardson, Esq., Sawbridgeworth, was placed first with a stand of very fine flowers. Mr. Chas. Crooks, gardener to the Dowager Lady Hindlip, Droitwich, second with very good blooms.

In the class for twelve blooms, any early flowering variety, Mr. E. Such was the only exhibitor, and was awarded second prize with Lady Fitzwygram. There were three competitors for twelve bunches of Pompon Chrysanthemums. Miss R. Debenham, St. Albans, was first with a good collection; Mr. S. J. Cook, gardener to A. N. Stephens, Esq., Hendon, second; Mr. E. Such third. In the class for six blooms, any large variety, arranged in a vase, Mr. J. Rose, Plumstead, was placed first with a very fine stand. The exhibitor is an employé in the Royal Arsenal, Woolwich, and the exhibit reflects great credit on him. Mr. N. Davis, Framfield, was the only exhibitor for a collection of Chrysanthemums, and was deservedly awarded the first prize. The best bunches were Barbara Forbes, Harvest Home, Lady Fitzwygram, Madame Marie Masse, and Mrs. Hawkins.

Messrs. J. Burrell & Co., Cambridge, were awarded first prize for a collection of Gladioli. The collection was a very large one. The best forms were Eunice, Baroness Burdett Coutts, Decima, Lauretta, Pyramide, Dora Craven, Grand Rouge, Rosalind, Comedy, and Formosa; also a large collection of Lemoine's hybrids.

In the class for forty-eight Show and Fancy Dahlias Mr. J. Walker, Thame, was placed first with a stand of good even blooms. The varieties were Goldsmith, Rev. J. Gooday, Perfection, Daniel Cornish, John Hickling, Champion Rollo, Hercules, Harry Keith, Duchess of Albany, Hercules (self), Wm. Powell, John Downie, Rebecca (self), John Hickling, Daniel Cornish, Chieftain, Wm. Powell, Duke of Fife, Mrs. C. Noyes, Purple Prince, Dorothy, Imperial, Mrs. Mortimer, John Standish, Comte de la Saux, Grand Sultan, J. T. Saltmarsh, S. Humphreys, Rev. J. B. M. Camm, Marjorie, Wm. Keith, Herbert Turner, Hero, J. C. Vaughan, Diadem, Florence Warter, Harry Turner, M. Campbell, Warrior, J. T. West, Mabel Stanton, Arthur Rawlings, and Shirley Hibberd. Mr. Chas. Turner, Slough, second with good flowers of Daniel Cornish, J. T. West, Chieftain, Geo. Rawlings, John Standish, Chas. Wyatt, Richard Dean, Jas. Cocker, John Forbes, R. T. Rawlings, and Jas. Vick. Mr. S. Mortimer third.

For thirty-six varieties, distinct, Mr. J. Walker repeated his former success with a first-rate exhibit. The varieties were Daniel Cornish, Perfection, Rev. J. Gooday, Goldsmith, Harry Veitch, Colonist, John Hickling, Imperial, Champion Rollo, Rebecca (self), Hercules, Florence Warter, Shirley Hibberd, Edmund Boston, S. Humphreys, G. Harris, J. T. West, Chieftain, Emin Pasha, John Walker, Arthur Rawlings, J. C. Vaughan, Arthur Ocock, Wm. Keith, J. C. Reed, Prince of Denmark, Mrs. Langtry, J. Greaves, Wm. Rawlings, T. J. Saltmarsh, Hero, M. Campbell, Glowworm, T. W. Girdlestone, and Mabel Stanton. Mr. S. Mortimer, Farnham, second with good flowers of James Stephens, Goldfinder, Jas. Cocker, S. Mortimer, Rosamond, Lord Chelmsford, and Ethel Britten. Mr. C. Turner third. For twenty-four blooms, distinct, Mr. G. Humphreys scored with good blooms of Daniel Cornish, Earl of Ravenswood, Arthur Rawlings, Perfection, T. W. Girdlestone, John Walker, and Duchess of York. Mr. J. R. Tranter, Henley-on-Thames, second with good flowers of John Hickling, Perfection, Wm. Rawlings, Maud Fellowes, and Jas. Cocker. Mr. J. R. Tranter secured the first place for twelve distinct with an average stand; Mr. G. Humphreys second; Mr. W. Baxter, Woking, third.

There was a keen contest for twenty-four bunches of Pompon Dahlias, distinct. Mr. C. Turner proved the winner with a very level display. The varieties were Bacchus, Capt. Boyton, Jessica, Iris, Mabel, Admiration, Orpheus, Mars, Tommy Keith, G. Brinkman, Cecil, Whisper, Cicero, Isabel, Lady Blanche, Ixion, Hypatia, Fabio, Nerissa, Madeline, Adrienne, Ganymede, Douglas, and Clarissa. Mr. F. W. Seale, Sevenoaks, was a very close second with good bunches of Capt. Boyton, Little Sweetheart, Emily Hopper, Rosebud, Bacchus, and Whisper. Messrs. Keynes, Williams & Co. third. For twelve bunches Pompons, distinct, Messrs. J. Burrell & Co., Cambridge, were easily first with a first-rate

stand. The varieties were Arthur West, G. Brinckman, Isabel, Mary Kirk, Emily Hopper, Douglas, Eurydice, Bacchus, Eric, Nerissa, Phoebe, and E. F. Finger; Mr. G. Humphreys second with good bunches of G. Brinckman, Cecil, Bacchus, and Arthur West; Mr. J. Walker third.

For eighteen bunches of Cactus Dahlias Messrs. Burrell & Co. added to their previous successes by gaining the first prize with *Regulus*, Mrs. Peach, *Starfish*, *Britannia*, *Chas. Woodbridge*, *Sirius*, *Esmeralda*, *Falka*, *Casilda*, *Night*, *Lady Penzance*, *Cinderella*, *Mary Service*, *Arachne*, *Island Queen*, *Fantasy*, *Keynes' White*, and *Lucius*. Messrs. Keynes, Williams & Co. second with good sprays of *The Clown*, *The Sirdar*, *Viscountess Sherbourne*, *Countess of Lonsdale*, and *Progenitor*. In the class for twelve bunches of Cactus varieties Mr. S. Mortimer was placed first with *Chas. Woodbridge*, *Starfish*, *Keynes' White*, *Night*, *Britannia*, *E. J. Deal*, and *Fusilier* good. Mr. H. Shoesmith, Woking, second with good bunches of *H. Stredwick*, *Starfish*, *Beatrice*, and *Chas. Woodbridge*. Mr. Jas. Stredwick, St. Leonards, third.

In the class for twelve bunches of single Dahlias, distinct, Mr. T. W. Girdlestone came first with a very good stand. The varieties were *Aladdin*, *Phyllis*, *Oberon*, *Ganem*, *Polly Eccles*, *Tommy Tucker*, *Tommy*, *Ruy Blas*, *Folly*, *Columbine*, *Louissette*, and *Eric*. Mr. Jas. Hudson, The Gardens, Gunnersbury House, second with good *Victoria*, *Jeannette*, *Miss Roberts*, and *Polly Eccles*; Mr. W. Mist, Ightham, third.

Mr. W. Wells, Earlswood, staged a capital collection of early flowering Chrysanthemums. The most notable were *Chateau St. Victor*, *Sam Barlow*, *Albert Chausson*, *Bronze Bride*, *Harvest Home*, *Madam Liger Ligneau*, and *Jeanne Vuillermet*. Mr. T. S. Ware, Tottenham, arranged a large exhibit of Cactus and Pompon Dahlias, very effectively arranged with *Asparagus*, *Aralias*, and other foliage plants. Mr. H. J. Jones, Lewisham, exhibited a very artistic group of well grown Chrysanthemums, *Liliums*, *Caladiums*, *Begonias*, arranged with *Palms* and *Bamboos*. The collection contained a new variety of good promise named *May Manser*, a white with creamy centre. Mr. J. H. Witty, Nunhead Cemetery, staged a pretty circular group of Chrysanthemums of the early flowering type tastefully arranged with *Ferns*, *Grevilleas*, and other foliage plants. Mr. F. G. Foster, Brockhampton, Havant, staged one of his well known displays of *Sweet Peas*, arranged with *Maidenhair Ferns*; the former were bright and fresh. Messrs. H. Cannell & Sons, Swanley, staged some beautiful bunches of early flowering Chrysanthemums, also an excellent strain of *Cockscombs*. Mr. J. Green, Norfolk Nurseries, Dereham, exhibited a large collection of Cactus and Pompon Dahlias, in the former section *Green's Gem*, *Norfolk Hero*, *Starfish*, *Beatrice*, *Fantasy*, *Nero*, *Maid of Honour*, *Night*, and *Britannia*, *Strahlen Krone*, and *Mary Service*. The latter section contained all the best known forms.

Mr. J. Mattock, Oxford, staged a capital exhibit of *Roses*, principally composed of the *Tea* and *Noisette* sections. The blooms were remarkably fresh and bright, and made a very effective exhibit. Mr. M. V. Seale, Sevenoaks, staged a beautiful display of Cactus and Show Dahlias arranged with *Asparagus*.

NEWTOWNARDS, CO. DOWN.

As an Englishman going to Ireland for the first time, and one who has opportunities for seeing most of the leading English shows, I must confess to not being prepared to find in this charming little Irish town a show which, for magnitude and quality, equalled almost anything we have in England. More than forty-three years ago Alex. Dickson, Esq., J.P., the head of the talented family of rosarians known throughout the world, initiated this excellent Society, which can now boast of a surplus of more than £500, though prizes have been offered of substantial value for classes embracing almost everything that is grown for exhibition, and I sincerely hope that he may be spared with his sons for many years to see the same flourishing conditions maintained. The Society has in Mr. Love a Secretary who commands the respect of all.

The Show was held in a portion of Messrs. Alex. Dickson & Sons' grounds, and a more charming place could not well have been selected; the three splendid tents were completely filled with the choicest of fruits, flowers, and plants, whilst vegetables were staged outside.

I was greatly interested in the way the fruit was protected against damage by having large cases made with wire netting tops, the back being deep enough to contain a stand of *Grapes*, whilst the front was partitioned into spaces about the size of a plate, thereby doing away with dishes altogether, and in the receptacles provided the smaller fruits were arranged. After the Judges had completed their work the cases were locked until the close of the Show, and visitors could see everything to advantage. The plant stages were low enough to allow everything being seen, and it is satisfactory to know that all the tents, staging, and other requisites belong to the Society.

Of the exhibits, Messrs. Dickson placed such a collection of *Roses*, herbaceous plants, *Sweet Peas*, *Gladioli*, *Begonias*, stove and greenhouse plants and floral designs, as I have never seen set up by any nursery firm, and the unanimous opinion of the Judges was that the silver and gold medals awarded were not sufficient recognition of merit. In the nurserymen's class the firm carried off prizes for collections of fifty *Roses*, distinct, forty-eight in trebles, and thirty-six blooms; thirty-six, twelve *Fancy*, twelve *Pompon*, and thirty-six Cactus Dahlias, forty-eight *Gladioli*, twenty-four *Begonias*, twenty-four Zonal "*Geraniums*," thirty-six herbaceous plants, also *Pansies*, *Violas*, *Carnations*, *Picotees*, and various plants, all being of splendid quality. They also received awards for five new *Roses*—viz., *Irish Consequence* and *Irish Beauty*, two charming large singles; also for *Meta*, *Beryl*, and *Killarney*, three gems to be heard of again.

The fruit was superb, *Grapes* being particularly so, and all arrangements were carried out without the least confusion. The show was honoured last year by the presence of their Royal Highnesses the Duke and Duchess of York, and this year by nearly all the notabilities of the neighbourhood.

Stove and greenhouse plants were well shown, Sir Samuel Black winning in the class for ten, the most notable being *Anthurium Andreanum*, *Statice profusa*, *Allamanda Hendersoni*, and good *Crotons*; the second prize going to the Marquis of Londonderry with most creditable specimens. The chief prize for stove and greenhouse plants in not exceeding 10-inch pots was worthily won by J. Stevenson, Esq., *Crotons* and flowering plants being especially well grown. Dr. Henry Comber was a very good second. *Cannas* were in good condition, Mr. Stevenson winning easily. He also won the trophy for plants in 6-inch pots, *Crotons* and *Dracænas* figuring conspicuously.

The tables of plants were extremely good, and here Major Crawford, Crawfordsburn, scored quite easily, the superiority of the excellent *Crotons* and the arrangement forming a charming picture. Sir Samuel Black had capital plants, but more greenery judiciously distributed would have made quite a transformation in the effect. Cut flowers were grand, Sir Samuel Black, Major Crawford, J. T. Marsden, Esq., Silverdale, Lancashire, being the leading prizetakers.

The fruit classes formed a great feature of the show, and English growers would have had to look to their laurels to equal the magnificent quality staged. For a collection of twelve dishes Mr. Bradshaw, gardener to the Marquis of Downshire, had a grand collection, consisting of *Cooper's Black* and *Muscat of Alexandria Grapes*, *Dymond* and *Princess of Wales Peaches*, *Countess Melons*, *Williams' Bon Chrétien* and *Jargonelle Pears* (splendid), *Brown Turkey* and *Brunswick Figs*, *Lord Napier Nectarines*, and *Pond's Seedling Plums*. A worthy second place was taken by Lord Macnaghten, Kimkerry, with fine *Peaches* and *Nectarines*, *Melons*, and the finest pair of *Duke of Buccleuch Grapes* it has ever been my fortune to see. The third prize went to Lord O'Neill, Shanes Castle, for a fair exhibit.

For six bunches of *Grapes* the Marquis of Downshire was successful with glorious bunches of *Gros Guillaume*, *Cooper's Black*, *Muscat of Alexandria*, *Golden Champion* (slightly past its best), and *Black Alicante*, Lord Dunleath, Ballywater, was a very good second, and Lord O'Neill third. Lord Dunleath had fine *Black Alicantes* in two bunches, the Marquis of Downshire *Mill Hill* *Hamburgh*, and Lord O'Neill a pretty pair of *Muscats*.

Apples were really fine, the principal prizewinners being Wm. McCullough, Esq., T. Gilmore, Esq., W. S. Johnston, Esq., J.P., and Jas. McClelland, Esq. The amateur and cottager section was of the greatest possible merit, the competition being extremely keen.

Vegetables were very high in quality and in great profusion, ranking with anything seen in England, the principal prizewinners being the Marquis of Downshire, Lord Dunleath, Lord Macnaghten, and Major Crawford; and amongst amateurs, Messrs. Stevenson, McMurray, Gribben, Jas. Dalzell, and Dr. Henry. The day was beautifully fine, and the attendance highly satisfactory.

THE YOUNG GARDENERS' DOMAIN.

IMANTOPHYLLUM MINIATUM.

IMANTOPHYLLUM (*Clivia*) *miniatum* is a plant that should be in every collection, as it is most useful, and will be found a charming addition to a conservatory or flowering house. It belongs to the natural order *Amaryllidaceæ*, and is a native of Africa. If a few plants are managed properly and started or retarded at suitable intervals, flowers may be obtained almost throughout the year. It is really a greenhouse plant, although it is often grown in more heat, as it lends itself admirably to slight forcing.

The broad green foliage is almost as attractive as the deep orange flowers. These can be effectively employed for table decoration. The soil which is most suitable for *Imantophyllums* is one composed of good fibrous loam and cow manure with coarse sand. They are strong rooting plants and require rough soil, and during the growing season plenty of water. There are now several very fine varieties which form a magnificent collection. The stock can be increased from seeds or division. The latter is the usual method practised, as plants may be obtained much easier and quicker, and it is necessary where the variety is required to be kept true. In winter it is not advisable to grow the plants in a temperature much below 45°. If large specimens are required, several small plants may be placed in a large pot or tub, which they will soon fill with roots and throw up plenty of flower.—S. S.

CULTURE OF PEACHES AND NECTARINES.

(Continued from page 75.)

SYRINGING.—This should be taken in hand as the fruit is set and swelling, but until fair proportions are reached it must be conducted with care, and in the afternoon should be performed sufficiently early that the leaves may be dry ere night sets in. As the fruit swells and more growth is made heavier syringings must be the order, it being the object of the grower to keep red spider at bay, which cannot be done by mere dribbles. Regular syringings must be maintained until the fruits change colour for ripening.

As soon as the fruit is gathered the trees should receive a thorough drenching from the syringe for cleansing them from any spider which may have made its appearance during the period of ripeness of the fruit.

Syrings should be continued until the wood shows signs of becoming fairly ripe. We must remember it is more to the credit of the man in charge at the close of the season to have clean trees than otherwise, and hence our need of thought, care, and activity.

THINNING THE FRUIT.—As the Peach and Nectarine generally set many more fruits than are required thinning is of course necessary. This operation should take place by degrees. As a guide thin first when the fruits are very small, secondly when about the size of marbles, and finally after the stoning period is over, always endeavouring to leave the best placed fruits. In many places dropping of the fruit is prevalent at stoning time, hence the advisability of leaving the final thinning until that stage is past. From a well set healthy tree, if the fruits be thinned to about 1 square foot of surface, we shall reap a rich harvest of beautiful Peaches, although some gardeners go closer than the distance named, according to circumstances and for what purposes the fruits are required.

EXPOSING THE FRUIT.—As the fruits approach the ripening stage such leaves as cover them should either be removed or turned aside to enable the fruit to have the full benefit of the sun. Some gardeners place a short lath under the fruit where practicable, turning the fruit upwards towards the sun, but in performing this operation care is needed, as if awkwardly placed the fruit will part from the wood. Properly exposed fruits have a more tempting appearance when ripe as the colour is much more even. As ripening takes place gradually admit more air until the trees will bear the maximum amount. Air will be found necessary in imparting good flavour to the fruit. In the earliest forced houses ventilation must be more carefully indulged in, especially when cold winds prevail, or the day is changeable.

Experience will teach us when the fruit is in fit condition for gathering. The trees should be looked over each day, giving those fruits of the ripest appearance a gentle pressure by the hand, being careful not to bruise those which will not easily part from the wood.

RIPENING THE WOOD.—As soon as all the fruits are gathered the trees must be gone over, cutting out all old bearing wood in order that the new wood may have all benefit, not only in strengthening it, but that which is derived from the sun. Admit plenty of air into the houses, and in the case of wet or cold sunless weather ripening is aided by means of gentle heat from the pipes. It must be remembered that unless we have well ripened wood we cannot hope for a grand success another year. When the leaves have fallen keep the houses quite cool, only just excluding frost, and that for safety of the pipes.—SEMPER.



FRUIT FORCING.

Cucumbers.—Shorter days necessitate closing the house earlier, also syringing sooner, so as to have the foliage fairly dry before dusk. Fire heat has become necessary in consequence of the change to colder weather. Maintain a temperature of 70° to 75° by day, and 65° to 70° at night. Keep the growths fairly thin, removing old shoots, and encouraging others so as to provide a succession of bearing parts. Stop the shoots one joint beyond the fruit unless growth is wanted, then allow more extension, but avoid crowding. Encourage root action by a steady bottom heat of 80°, surface dress with lumpy manure, and afford liquid manure in a tepid state as required.

Autumn Fruiters.—Afford every encouragement to these plants, stopping so as to insure an even spread of bearing growths. No shading will now be necessary. Avoid syringing in the morning, and only use the syringe on fine afternoons, and then early and lightly, keeping the house damped as occasion requires. Admit air in moderation, seeking to encourage sturdy growths by early ventilation, and closing shortly after midday.

Winter Fruiters.—The plants from seed sown early in August will now be fit to plant out. The house must be a light one, have means of securing a temperature of 70° to 75° in all weathers, and of maintaining a bottom heat of 80° to 90°. Thoroughly cleanse the house, clearing out all the old soil, and seal the whole of the interior with boiling water. Wash the woodwork with carbolic soap and a brush, glass with clean water, and limewash the walls. If rubble is used about and over the hot-water pipes for bottom heat, clean it properly and secure the drainage with a layer of turves grass side downwards. This should also be sealed as a safeguard against eelworm, similar precaution being taken as regards the compost. Place this in ridges or hillocks about 2 feet wide at the base, 10 to 12 inches deep, and 1 foot across at the top. Turfy loam laid up until the grass is killed, chopped up rather roughly two-thirds, and one-third sandy peat, chopped or torn up, with one-sixth of old mortar rubbish, and twelfth of broken charcoal form a suitable compost. It should be neither wet nor dry, and only made tolerably firm. Plant when the soil is warmed through, press this soil gently, and secure the plants to stakes reaching to the trellis. Rub off the laterals to that height, and stop the leading shoot at about the second or third wire of the trellis. Shade from bright sun until established. Syringe lightly in the afternoon, damp the walls and paths, and maintain a day temperature of 70° to 75°, rising to 85° or 90° from sun heat, and 65° to 70° at night.

In Pits and Frames.—Train the growths thinly as a safeguard against damp. Watering must be done early and judiciously, as damp soon injures Cucumbers at this season. A light sprinkling may be given at closing time on fine afternoons, but water will not be much needed after this, or very little of it, the plants obtaining sufficient moisture from the fermenting beds. Line the beds with stable litter, and admit a little air at the back to allow of any steam escaping. The temperature should be kept at about 65° at night. Employ a covering of mats over the lights on cold nights. With care Cucumbers will be obtained from these structures for many weeks to come.

Peaches and Nectarines.—*Earliest Forced House.*—The trees are now shedding or have shed their leaves, and may be syringed with water at a temperature of 140°. This, used judiciously, makes an end of red spider, scale, thrips, and brown aphid. Cleanse the house at once, always loosening the trees from the trellis, and dress them, after pruning, with an insecticide. Pruning will be a light affair, merely thinning the shoots where too crowded or too weak for the production of fine fruit, no shortening being necessary except for the origination of shoots for extension. Tie the trees to the trellis loosely, leaving sufficient room for the swelling of the branches and shoots. Remove the loose surface soil down to the roots, and supply a couple of inches of fresh loam, and sprinkle on it a good handful per square yard of some approved fertiliser. Avoid heavy surface mulchings of manure, they only exclude air. If the lights have been removed they should not be replaced until the time arrives for starting the trees.

Second Early House.—The trees are beginning to shed their leaves, and the roof-lights may be removed if not already done in August. This plan prevents over-maturity of the buds, and insures their being well plumped. It also prevents to a great extent the buds falling off if taken in time. When the leaves are all down treat the house the same in every respect as the earliest house. If the roof-lights are not movable ventilate to the fullest possible extent.

Succession Houses.—Any trees that have a tendency to over-luxuriance should have a trench taken out as deeply as the roots about one-third from the stem the branches cover of trellis. It may be done as soon as the fruit has been gathered, or as soon as the wood has become sufficiently firm. This may remain open a fortnight or three weeks, then the soil carefully removed from over and amongst the roots, laying these in fresh material, good loam rather stiff being the best, with about a sixth of old mortar rubbish. If a good watering be given the roots will soon grow freely in the fresh compost, and the fruits invariably set well afterwards. In removing the old soil care must be taken not to disturb the roots so as to cause the sudden collapse of the foliage. This plan answers well for young trees, but root-pruning and lifting generally should be deferred until the leaves give indications of falling.

Late Houses.—Late varieties require a free circulation of air, utilising sun heat if the fruit is backward. When too warm and dry the fruit is apt to be deficient in flavour and juice. The trees must have sufficient water, but a rather drier condition at the roots is advisable when the fruit is ripening. Keep the wood thin, stop any growing shoot to about 15 inches, and all laterals closely to one joint as growth is made.

THE KITCHEN GARDEN.

Celery.—Market gardeners who find it impossible to supply water or liquid manure to their Celery are at a disadvantage this season, the plants making poor progress when dry at the roots and exposed to tropical heat. In private gardens a thorough soaking of water or liquid manure ought to be given as often as the soil in the trenches approaches dryness. Advantage should be taken of dull showery weather to apply more liquid manure. Celery is essentially a moisture-loving plant, and not supplying water to the roots after moulding up has commenced is frequently the cause of many plants producing flower stems.

Blanching Celery.—Much Celery is wasted owing to insufficient pains being taken with the work of moulding up the rows. Starting too late is a mistake, as when the plants are allowed to assume their natural habit the leaf-stalks cannot be got up right again without splitting at the base. The latest rows may now be taken in hand. All sucker growths and small leaves, together with any weeds there may be, should be removed, and soon after a good watering is given enough fine soil should be placed in the trenches to keep the leaf-stalks together. More soil should be placed round the successional and main crop plants. The earthing must not be greatly in advance of the central growth, too much soil at one time causing the plants to split at the base. If slugs and grubs are troublesome soot ought to be applied freely as the plants are moulded. The cleanest stalks result from the use of brown paper bandages, these keeping out the soil and lasting till disturbed by digging.

Cabbage.—If strong young plants of small-growing, quick-hearting varieties of Cabbage are put out on good ground now, about 1 foot apart each way, and kept watered till growing freely, they may yet develop to a serviceable size, many of them forming small hearts for winter use. With a scarcity of other vegetables small hearts from the reserved old Cabbage stumps may prove acceptable during the next few weeks. These old plants have long since exhausted the ground they are on of much of its fertility, and good would result from first lightly breaking up the surface of the ground with a fork and then applying liquid manure liberally.

Onions, Garlic, and Shallots.—Spring sown Onions, including those planted out of boxes, and which are usually the earliest to mature, may if well advanced, but still rigid, have their tops or necks twisted down, this hastening maturation, but avoid pulling the crops prematurely, as this will end in their keeping badly. Garlic and Shallots in many instances are quite fit for storing in a cool, dry place. Any that have only just been pulled should be spread in the sun and be turned occasionally.

Tomatoes.—Plants against walls and in the open failed to set fruit well early in the season, and as a consequence the crops are late in ripening. Thanks to the sunshine and dry atmosphere the crops yet promise to remunerate for all the trouble taken with them, and if still free of disease for another fortnight large quantities of good fruit will have ripened. Avoid stripping off nearly or quite all the leaves, as this exposes the fruit more than is desirable, checking further progress, and spoiling the quality. Top the plants if not already done beyond the third or fourth cluster of fruit, remove all superfluous side shoots, and if the primary leaves are extra strong, or cover the fruit unduly, reduce them in size. Fruit that has commenced changing to a yellowish red in colour should be gathered, and the ripening finished on a bench in a dry warm house or room. It is too early to cut the bunches of green Tomatoes, as should the early part of September prove to be dry and moderately warm, much of the fruit will ripen better on the plants. If a bad attack of disease is feared cut the bunches early, and hang them in a dry heat to ripen.

THE BEE-KEEPER.

CONDEMNED BEES.

ALTHOUGH the wooden frame hive has made much headway of late years, there are still numerous stocks of bees kept in straw skeps, or makeshift boxes, in various parts of the country. These will now require attention, and those that are condemned should be humanely treated, and the lives of the bees saved. Suffocating the bees with brimstone will, we hope, be soon a thing of the past, and this can only be done by bee-keepers assisting their less fortunate brethren in the craft.

The art of driving bees has been mentioned on more than one occasion in these notes, but as shown above there are still many bee-keepers throughout the country who know but little about the matter, and as there are constantly new readers of the Journal, a few words on this subject may be of interest to them.

In the first place it is well to understand what it is that causes the bees to leave their hive and their well sealed stores. It is fear. If a hive is rapped sharply with the hand several times in succession without moving it in any way or using any smoke, a few of the bees will come out at the entrance and fly in all directions to see what is the matter, but the majority of the bees in the hive will at once delve into the cells and fill themselves with honey so as to be prepared for the worst in case they should become homeless. When they are in this condition they are invariably good tempered, and may be handled with impunity. This is the reason why a little smoke is blown into the entrance of the hive a few minutes before starting to drive them—none of the bees will take wing. The less smoke used the better; a few puffs from the smoker, and a few sharp raps on the hive at the same time is much better than partly stupefying the bees with smoke.

Commence by inverting the skep to be operated on, an empty skep may be placed on the top, and the bottom hive constantly tapped with the hands; this will cause the bees to run up into the empty skep. This is called close driving, and the disadvantage of practising this plan is, the operator cannot see the bees or the queen as they pass up into the empty skep.

Open driving is to be preferred, and only the most timid bee-keeper should practise close driving. The only difference is, the empty skep is so placed that the interior of both skeps can be seen by the operator. A piece of stout wire or sharpened stick is first put through the two edges of both skeps, and two pieces of similar wire about 1 foot in length, with the points turned at right angles. These will form a hinge on each side of the skep to be operated on, and will allow an open space of at least a foot between the front edges of the two hives.

Commence tapping the bottom hive, and in a short time the bees will commence to run up into the empty hive at a rapid rate. If the operator places himself directly in front of the opening between the skeps, the queen may be seen as she runs up with the other bees. It is important that the queen should be seen, otherwise she may be crushed when removing the combs from the hive. If the bees are at all sluggish, and are not inclined to leave their combs, a little smoke, combined with sharp tapping, will soon cause them to do so.

When the majority of the bees have left their hive, the skep containing the driven bees may be placed on its original stand again. The combs may then be lifted out of the hive, and the adhering bees brushed off into an empty skep. These may be added to those already placed on the stand.

MAKING MEAD.

There are many recipes for making mead, and it is somewhat difficult to know which will suit "D. H." the best, as he does not state whether the honey has been extracted from frame hives, or if it still remains in the comb. If the mead is made from pure honey a superior beverage

will be obtained, and all that is necessary is to add a great quantity of water; the exact amount may be easily determined by making it from the following recipe.

Take the combs and all the honey they contain from a couple of straw skeps, or one ordinary sized frame hive. The combs must be broken in small pieces by hand, and placed in a tub, to which should be added 3 gallons of water, which must be constantly stirred, and allowed to remain for several days. If time is an object warm water may be used, or if the honey is granulated it becomes a necessity, otherwise it would not dissolve and mix with the water. If the latter plan is adopted it will only be necessary to allow the combs to soak for half an hour, and after stirring them well for a few minutes pour the liquor off and add more warm water to the combs, which in half an hour will have extracted all the honey from them.

If pure honey is used it will doubtless have become granulated, and it will only be necessary to add the required quantity of warm water. But in either case the liquor should be strained through a cheese cloth, and the debris obtained from the former may be preserved for making wax.

It will be necessary to find out if the liquor is of sufficient strength. To test it, drop in a new-laid egg. If it sinks to the bottom it will be too weak to make mead of the first quality. Honey must then be added until the egg floats. The liquor, however, should be of sufficient warmth to melt the honey, otherwise it will not have the desired effect. Boil slowly for an hour, and during the process any flavouring that may be desired should be added; quarter ounce each of the following will be sufficient for the above quantity—cloves, ginger, mace, and stick cinnamon, which must be tied in a bag; any other flavouring may be added according to taste.

When it has cooled sufficiently strain through a cheese cloth, and add half a pint of brewers' yeast, allowing it to ferment for two or three days, and skim occasionally. It should then be placed in a cask and the bung left out for a fortnight until fermentation has ceased. The cask may then be corked up tightly and the mead be bottled any time within a year. If brewers' yeast cannot be obtained the ordinary German yeast will answer the same purpose. It is not necessary to add spirits of any kind, as mead made on the above lines will keep in prime condition for several years, and will improve with age. — AN ENGLISH BEE-KEEPER.

TO CORRESPONDENTS

* All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Destroying Wireworms in Soil (Wakopa).—Wireworms will eat almost any kind of vegetable matter, but are especially fond of Carrots, hence pieces of these make the best traps. They may be about 2 inches in length, cut transversely, and inserted about 2 inches deep in the mould. If a pointed piece of stick be thrust into each bait, it forms an index to where the baits are, and a ready mode of examining them, which should be every morning. If you require something for mixing with the soil we do not know of anything better than mustard dross, but it must be used sparingly, $\frac{1}{2}$ oz. sufficing for a square yard, sprinkling it on the surface and pointing in very lightly at first, or if the surface is rather rough not doing so for about two or three days, and then dig with a fork, taking very small spits, so as to mix well about a foot deep. The dross, owing to the cyanogen, has a deleterious effect on the growth of plants, but in the amount named not materially so. Little's soluble phenyle, a wine-glassful or 2 fluid ozs. to 3 gallons of soft water, and applied at the rate

of about a gallon per square yard when the soil is in a moist condition and fairly loose state, has been found serviceable. It should be used some time in advance of planting the Arums, which will be benefited by the application.

Parsley and Sage for Market (*Idem*).—The Parsley is done up in bunches of as many stalks as a woman can grasp rather loosely in the hand and there tied. In the Parsley growing districts of Bedfordshire and Huntingdonshire the Parsley is grown along with Onions, and is very fine. Sage is also put up in bunches of as many stems as can be grasped. The amount of stem should not be more than about that occupied by the hand. In times of comparative scarcity the bunches are very much smaller. It is an excellent plan to visit the markets to which you propose sending for observing the customs of vendors and buyers.

Cœlogynes (*M. G. C.*).—Cœlogyne cristata maxima thrives well in a summer temperature of 70°, running up 5° or 10° higher by sun heat at closing time; at night 60°. In the winter the heat must not fall much below 50°. A shady position must be given the plants while making their growth. Abundance of water at the root is also necessary during this season. In the winter less will be required, but the pseudo-bulbs must not be allowed to shrivel. The best time to divide this Orchid is in the spring soon after the flowers are past, when the plants may also be repotted if necessary, using a compost consisting of peat fibre, sphagnum, charcoal, and a little half-decayed leaf mould. C. ocellata maxima, otherwise known as C. corymbosa, requires similar treatment, but flowers a little later than the varieties of C. cristata.

Chrysanthemums Unsatisfactory (*Grower*).—The plants are affected with eelworm (*Tylenchus obtusus*), the decayed stems swarming with fertilised females, but there are few cysts, so that by destroying all plants affected in a similar manner by burning, you will probably destroy the disease. The soil in which the affected plants are growing should be subjected to the action of fire. It is difficult to account for some plants, and of certain varieties, being attacked while others escape, but it is certain that the parasites have gained access to the tissues of the plants when they were tender, and have continued to spread on them through the season. Possibly the pests may have been introduced with the potting compost, and only in that part used for this particular variety. We have had similar experience, but eventually the pests attacked other varieties.

Horse Mushrooms (*Novice*).—The Horse Mushroom is nearly allied to the common Mushroom, and has a dome-shaped pileus, bell-shaped in youth, expanding in maturity, generally of a pure white colour and cottony texture, but losing its downy appearance in age; and a veil consisting of a double membrane, thick, woolly, falling from the edge of the pileus, and hanging loosely round the stem; the gills are free, pale pinkish brown, becoming darker as they get older; the stem is cylindrical, the cavity filled with cottony pith. The flesh turns yellow when bruised. Occasionally the pileus is tinged with brown. It attains a large size. Authorities are at variance as to the manner of its growth. Mr. Berkley describes it as growing in rings, and Mrs. Hussey does not number it among those addicted to circular growth. When it does grow in rings they are of a very large size indeed, and as they are seldom perfect it is easy to overlook the relation which one group has to another. Fields and woods are the habitats of this Mushroom; those growing in the former are the most wholesome. They should not be taken in the button stage like the A. campestris, but are in perfection just as the veil has broken away from the pileus, and the bell-shape is merging into the dome. In this stage and later it is one of the best for making ketchup, its large size being a great desideratum in this matter.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (*C. M.*)—1, Wadhurst Pippin; 2, Ribston Pippin; 3, Greenup's Pippin. (*B. R.*)—1, Gravenstein; 2, Cellini; 3, Lemon Pippin; 4, Emperor Alexander; 5, Alfriston; 6, Blenheim Pippin. (*N. P.*)—1, Sandringham; 2, Lord Derby. (*T. T.*)—1, Beurré d'Amanlis; 2, Beurré Superfin; 3, Maréchal de Cour; 4, Marie Louise; 5, Louise Bonne of Jersey. (*F. H.*)—1, Court Pendu Plat; 2, Lane's Prince Albert.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in

the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*W. B.*)—1, Thuia aurea; 2, Retinospora plumosa aurea; 3, Cryptomeria elegans; 4, Cupressus orientalis; 5, uncertain, possibly Cupressus Lawsoniana aurea; 6, Juniperus chinensis. In sending sprays for naming, the habits of the Conifers should be stated. (*T. W. C.*)—1, Thuia occidentalis ericoides; 2, Cupressus Lawsoniana; 3, C. L. aurea; 4, Thuia occidentalis; 5, Cupressus nootkatensis; 6, Pyrus aria angustifolia. (*K. W. G.*)—1, Colutea arborescens; 2, Spiraea Douglasi; 3, Olearia Haasti; 4, Cornus mascula variegata; 5, Teucrium fruticans.

COVENT GARDEN MARKET.—SEPT. 7TH.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve ...	0 0	to 0 0	Grapes, lb. ...	1 6	to 3 0
Cobs ...	0 0	0 0	Lemons, case ...	11 0	14 0
Filberts, 100 lbs. ...	0 0	0 0	St. Michael's Pines, each	2 6	5 0
Gooseberries, $\frac{1}{2}$ sieve ...	1 6	2 0	Strawberries ...	1 6	3 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0 0	to 0 0	Mustard and Cress, punnet	0 2	to 0 4
Beans, $\frac{1}{2}$ sieve ...	0 0	0 0	Onions, bushel ...	3 6	4 0
Beet, Red, doz. ...	1 0	0 0	Parsley, doz. bnchs. ...	2 0	3 0
Carrots, bunch ...	0 3	0 4	Parsnips, doz. ...	1 0	0 0
Cauliflowers, doz. ...	2 0	3 0	Potatoes, cwt. ...	2 0	4 0
Celery, bundle ...	1 0	0 0	Salsafy, bundle ...	1 0	0 0
Coleworts, doz. bnchs. ...	2 0	4 0	Scorzoneria, bundle ...	1 6	0 0
Cucumbers ...	0 4	0 8	Seakale, basket ...	1 6	1 0
Endive, doz. ...	1 3	1 6	Shallots, lb. ...	0 3	0 0
Herbs, bunch ...	0 3	0 0	Spinach, pad ...	0 0	0 0
Leeks, bunch ...	0 2	0 0	Sprouts, $\frac{1}{2}$ sieve ...	1 6	1 9
Lettuce, doz. ...	1 3	0 0	Tomatoes, lb. ...	0 4	0 9
Mushrooms, lb. ...	0 6	8	Turnips, bunch ...	0 3	0 4

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch ...	2 0	to 3 0	Maidenhair Fern, doz. bnchs. ...	4 0	to 8 0
Bouvardias, bunch ...	0 6	0 9	Marguerites, doz. bnchs. ...	1 6	2 6
Carnations, 12 blooms ...	1 0	3 0	Mignonette, doz. bnchs. ...	1 6	3 0
„ 12 bnchs. ...	4 0	8 0	Myosotis, doz. bnchs. ...	1 0	2 0
Chrysanthemums, per doz. ...	2 0	6 0	Orchids, var., doz. blooms	1 6	9 0
Eucharis, doz. ...	2 0	3 0	Pelargoniums, doz. bnchs. ...	3 0	6 0
Gardenias, doz. ...	1 0	2 0	Polyanthus, doz. bnchs. ...	1 0	1 6
Geranium, scarlet, doz. bnchs. ...	4 0	6 0	Pyrethrum, doz. bnchs. ...	1 0	1 3
Gladioli, per bunch ...	1 0	1 6	Roses (indoor), doz. ...	0 6	1 6
Iris doz. bnchs. ...	4 0	6 0	„ Red, doz. ...	0 3	0 6
Lapageria (white) ...	1 6	2 0	„ Tea, white, doz. ...	1 0	2 0
„ (red) ...	1 0	1 3	„ Yellow, doz. (Perles)	1 0	2 0
Lilium longiflorum, 12 blooms ...	4 0	5 0	„ Safrano (English) doz. ...	1 0	2 0
Lily of the Valley, 12 sprays	1 0	2 0	„ Pink, doz. ...	1 6	3 0
			Smilax, bunch ...	1 6	2 0

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6 0	to 36 0	Fuchsia ...	5 0	to 8 0
Aspidistra, doz. ...	18 0	36 0	Heliotrope, doz. ...	4 0	6 0
Aspidistra, specimen ...	5 0	10 6	Lilium Harrisii, doz. ...	12 0	18 0
Coleus, doz. ...	3 0	4 0	Lycopodiums, doz. ...	3 0	4 0
Dracæna, var., doz. ...	12 0	30 0	Marguerite Daisy, doz. ...	6 0	9 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	4 0	6 0
Erica various, doz. ...	12 0	24 0	Musk, doz. ...	2 0	6 0
Euonymus, var., doz. ...	6 0	18 0	Myrtles, doz. ...	6 0	9 0
Evergreens, var., doz. ...	4 0	18 0	Palms, in var., each ...	1 0	15 0
Ferns, var., doz. ...	4 0	18 0	„ specimens ...	21 0	63 0
„ small, 100 ...	4 0	8 0	Pelargoniums, scarlet, doz. ...	4 0	6 0
Ficus elastica, each ...	1 0	7 0	„ „ ...	8 0	10 0
Foliage plants, var., each	1 0	5 0			



FOR NEXT HARVEST.

It is generally supposed by our friends residing in towns that the farmer's life is one of pleasant leisure, diversified now and then by a little really hard work—work that only tends to give more zest for the enjoyment of leisure. They know, of course, that haymaking and harvest are both busy times, but still the work is done under such charming conditions, and is in itself so very

picturesque, that the sting is taken out of it. If they deign to take fork or rake in the hay meadow, it is at most for an afternoon, and usually finishes up with a picnic under a haystack.

It is somewhat the same with harvest work; they do not realise the long day, beginning for the horsemen as early as 4 A.M., and ending only with setting sun. No, there we are wrong. After the sun has set the horses still have to be groomed and suppered up, and in extreme cases we have seen leading going on by moonlight. Farm work never ceases, and we doubt if it ever even relaxes a little—not often. There are days, of course, when the weather forbids any outdoor work—i.e., on the land; but all the same, the stock requires as much, if not more attention.

Before the Wheat crop of 1898 is fairly housed, active preparations are being made for the harvest of 1899. The wise man is always a bit too forward in his work, rather than too backward. The calendar need not be consulted, but the season must, and the season is as variable as the moon. So much depends on the character of the previous summer, and after a dry time we have known the greatest difficulty experienced in getting land broken up and prepared for the seed bed. Sometimes heavy rains, which may delay harvest operations, prove of the greatest service in making the land workable, and all hands to the plough is not an unwise proceeding when there is a danger of being over-hasty with harvest.

We have often wondered to see old seeds left so long unploughed, and we can only surmise that the owner is short of lamb keep, or not alive to the advantages of a solid seed bed. We hear a good deal at times about Wheat "going array" in winter; this, to our way of thinking, is in a great measure a preventable complaint.

If ploughing is left to just the last minute, and the seed is committed to a light bed it is almost certain to go; but if, on the other hand, the land was allowed to sadden after ploughing, and to meet the "saddening" nothing beats a Cambridge roller—the corn has every chance. Reverting to the plough, we believe in doing that operation fairly deep, say at least 7 inches, except on strong land; the deeper the ploughing, the better the tilth. There may be still some good folks who still adhere to the practice of "broadcasting" Wheat or of ploughing in, and of course good crops are obtainable by both methods, but we are advocates of the drill.

We think the corn is distributed much more evenly, and at a regular depth; besides, too, any bit of cleaning in spring is more easily accomplished. We have yet to see the Wheat field in April that would not be benefited by the hoe. In a case of doubt as to cleanliness of the land the seams should be wide, 9 to 10 inches from drill row to drill row. On the contrary, if the land be very clean, and particularly if it be of a light or sandy character, 7 inches will be quite wide enough. We have found Wheat do better on such land when spread well over the ground, but as we said before, we prefer narrow drill rows to broadcasting. In fact, the only objection to narrow drilling is the greater difficulty of properly hoeing the plant in spring, especially where it is necessary to use a horse hoe, and we fear scarcity of labour in too many districts makes hand-hoeing not only expensive, but in several cases almost impossible.

It is very desirable in ploughing ley for Wheat that the ploughs should be good ones, and of the kind generally in request for prize-ploughing matches; on no account should chilled ploughs be used. Seven inches sounds deep for ley, but at any rate we should advocate 6 inches as a necessary depth, and if there be anything more than 2 inches of green growth to bury skim coulters must be used. To get a good seed-bed there should be 3 inches of soil at the top quite free from sod; then the harrows work well, a good tilth is acquired, the seed should be well covered, and if proper attention be paid to rolling, a good plant will be assured. Six weeks between ploughing and drilling is not at all too long an interval, and two months would be better.

When the land has lain quiet for some time after ploughing, especially if there has been heavy rain and the land has attained the firmness and solidity which is so desirable, drastic measures have

to be taken in breaking and working down the surface ridges; a set of heavy chisel harrows is the best implement for this purpose, and can be depended on to do the work thoroughly. A set of heavy ordinary harrows with a large number of teeth will complete the work ready for the drill.

The use of newly selected seed has tended to make the farmer careless about dressing his Wheat (before drilling) with anti-smut mixture; but whether it be from carelessness or from the recent conditions favouring the propagation of *smut*, or to use a more scientific name "*bunt*," true it is that this pest has been much on the increase, and is now more general than it has been for thirty years. Chemists generally recommend their own preparations for dressing seed Wheat, and some may no doubt be very good; but when we consider that the useful principle in all these mixtures is blue vitriol, which can be bought powdered in a pure form for a low price, it would seem to be more sensible to buy the real thing at first-hand—1 lb. of the vitriol will dress 6 bushels of Wheat.

WORK ON THE HOME FARM.

The weather has been very unsettled, and slow progress has been made with harvest during the past week. In some parishes a good breadth of grain has been secured, whilst in others the stackyards are comparatively empty. Wheat is bulking up well, but as a rule Barleys are going together in a small compass.

We have heard the hum of the threshing machine, but have heard little of the threshing result; 29s. per quarter has been made of good, sound, but not overdry Wheat. If the yield had been good probably we should have heard of it, for if farmers themselves do not boast of their big crops, the men or the neighbours generally do enough in that line when there is anything to talk about.

The saving of the harvest is now, of course, our first thought, but if wet weather should intervene to postpone the work we must turn our attention to the Wheat stubbles already cleared, or the lea intended for Wheat. The ploughing of the latter has been dealt with above, but as regards the stubbles we might point out that the rains have made dragging possible, and that the cultivator, spring-tooth or otherwise, should be put through the soil whilst the opportunity offers, for September is often very hot and dry, in fact it is one of the driest months, and if the surface can be well broken up at once it would be ready for further dragging and harrowing when the St. Michael's summer arrives, which it invariably does sooner or later.

The showers have been a great benefit to the Turnip crop, which promises to be an exceedingly good one. It is, however, rather backward, and does not look like being ready when wanted in October, but a fine September may do much to ripen it. Lambs are doing well and are giving little cause for anxiety at present, but the showery forcing weather is flushing all kinds of food so much that there may be difficulty near at hand, and a sharp look out must be kept, so that any outbreak of disease may be nipped in the bud.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1898. August and September.		Barometer at 32°, and Sea Level	Hygrometer		Direc- tion of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Tempera- ture		
			Dry.	Wet.			Max.	Min.	In Sun	On Grass	
		inchs	deg.	deg.		deg.	deg.	deg.	deg.	inchs.	
Sunday	28	30.000	60.7	54.0	S. W.	63.0	71.3	50.4	116.9	46.4	0.024
Monday	29	30.071	57.7	53.2	W.	61.9	65.2	49.1	104.3	44.1	0.053
Tuesday	30	29.905	64.6	57.3	W.	61.3	76.9	56.3	117.4	51.9	—
Wednesday	31	30.065	59.7	52.6	N.	62.7	68.9	54.8	113.9	49.0	—
Thursday	1	30.378	59.1	52.9	W.	61.3	71.2	44.9	117.9	40.4	—
Friday	2	30.383	61.1	53.2	W.	60.9	75.8	46.1	114.7	41.7	—
Saturday	3	30.403	66.1	60.1	N. W.	62.0	83.3	54.1	122.2	50.1	—
		30.172	61.3	54.8		61.9	73.2	50.8	115.3	46.2	0.077

REMARKS.

- 28th.—Alternate sunshine and cloud. Spots of rain at 11 A.M. and a heavy shower at 7 P.M.
 29th.—Bright early; overcast from 10.30 A.M. and showery after 4 P.M., especially between 6 and 8 P.M.
 30th.—Breezy and generally sunny, but cloudy at times.
 31st.—Bright sunshine generally, but heavy cloud at times.
 1st.—Generally bright, but intervals of cloud.
 2nd.—Cloudy early; bright warm day.
 3rd.—Sunny and warm throughout.

The earlier part of the week cooler than usual, the latter part much above the average temperature. It is now twelve months since we have had a week in which the rainfall has amounted to 1 inch.—G. J. SYMONS.

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Journal of Horticulture.

THURSDAY, SEPTEMBER 15, 1898.

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CUTTING, PACKING, AND ARRANGING FLOWERS.

FLOWERS are used in such profuse and lavish style in both town and country houses that I have concluded the few suggestions contained in this note might be of use to the younger readers of the Journal. When cutting flowers for packing it is best to gather early in the morning before the sun has gained much power, and to place in jars or vessels of water. Or if packing is to be done early in the morning gather the flowers the previous evening and put in water. By so doing enough water is imbibed to keep them fresh during the journey, and their lasting properties are considerably enhanced.

The practice of damping the blooms after they are in the box is one to be avoided, as many fragile flowers are injured thereby, and no useful purpose served. Flowers should, if possible, be gathered in dry weather, as those of soft texture commence early to decay, and do not last long after being placed in vases of water. But as to every rule there is an exception, Stephanotis lasts considerably longer when thrown into water a day or two before despatch.

Where flowers are in great demand it becomes necessary to know how to use them economically. The following flowers are best cut just as the petals are unfolding, or in half-open state—Narcissi, English, Spanish, and German Irises and Water Lilies; whilst Gladiolus Colvilli The Bride, G. brenchleyensis, and the gandavensis hybrids, Tuberoses, Eucharis, and Montbretias, to obtain their fullest beauty should be cut as soon as the bottom flower has opened, and if not admissible for vases may be kept a day or two in a cool room, when every flower will expand, whereas, if allowed to remain on the plant, one half of the flowers would be lost. Roses, both Hybrid Perpetuals, Teas, and Noisettes, should be cut in a half-open state as soon as the colour is seen.

Herbaceous flowers—as Phloxes, Delphiniums, Helianthus, Rudbeckias, Pæonies, Aquilegias, Liliums, and Alströmérias, to be effectively arranged, should be cut as near the ground as

possible. It is here necessary to add a word of caution, which is to abstain from cutting any individual plant too severely, as this has a detrimental effect on its after life. If a third of one plant is cut away, that will be as far as it is safe to go.

Boxes of wood or tin are best for flower transit, as those of cardboard are liable to be crushed and the contents damaged. Wooden boxes should combine strength with lightness, and if the outside corners have a narrow strip of tin or zinc fastened to them it will conduce to the lasting qualities. The lid should be movable, and ought to have a narrow strip of wood across each breadth end, so that when placed it fits down the inside of the box. By this plan nailing the lid becomes unnecessary. As a matter of fact the lids of flower boxes should not be nailed, but be secured by strong string. When several boxes are being sent, they must be corded together or packed into a hamper.

In all cases boxes that will hold two layers of flowers will be found deep enough, the dimensions of the boxes in other respects being in accordance with the flowers utilised. Fragile flowers, such as Cattleyas, Oncidiums, Phalænopsis, Odontoglossums, and most Orchids, also Gardenias, Pancratiums, Dipladenias, and Allamandas, should be packed by themselves in small boxes and in a single layer. Many small flowers, like Violets, Sweet Peas, Snowdrops, Primroses, Lily of the Valley, Roman Hyacinths, double Primula, Freesias, blue Cornflowers, and several annuals are better tied into small bunches. They travel well, and are also conveniently unpacked. In packing flowers, cotton wool should be carefully guarded from coming into contact with the flowers. Where it is used to line the box or placed over the contents, tissue paper should come between it and the flowers. It has a very drying tendency on fragile flowers.

Those receiving flowers should take the precaution to cut a small portion from the end of the stems before placing in water, so that the flower can suck up water to retain its freshness and beauty. Flowers having a woody stem ought to have a strip of bark removed to enable them to take up the water. But branches of flowering shrubs cannot be expected to remain fresh long under any conditions. Rain water, when obtainable, is best both for the flowers and the glasses. Some waters that are impregnated with lime encrust the glass to a certain extent, but a little salt will remove this, and a pinch of salt is sometimes recommended to retain the freshness of flowers beyond the usual time; a piece of charcoal to keep the water fresh is also sometimes used where time is pressing.

It would seem to be unnecessary to say that fresh water should be given the flowers every two or three days, and it will be found that most flowers imbibe a considerable quantity the first day after being cut. Moss is sometimes placed in wide and shallow bowls to keep the flowers in position. If such is used it should be sphagnum, and not the hypnum moss, as the latter when left a day or two frequently gives off a disagreeable smell. In arranging flowers in vases or glasses a stiff and rigid outline is to be avoided, no looseness, and no packing, just sufficient, and no more, so that each individual flower and leaf has its own allotted space. One way of accomplishing this is to fill the receptacles with water, so as to obviate the pushing of the flower stems too far down, particularly in the case of tall or narrow glasses. Leaves should be removed from those portions of the stems that are placed in water.—F. STREET.

VEGETABLES FOR HOME AND EXHIBITION.

POTATOES.

As the harvest time of the precious tuber is now here, it seems opportune for referring to Potatoes in the series of articles now drawing to a close. There is no need to dwell on the popularity or usefulness of the vegetable, and indeed so much has been written about its culture that it is difficult to avoid going over ground already traversed by many an able pen. One word respecting its progress. Most readers of this Journal are acquainted with the story of Sir Walter Raleigh bringing home the two plants destined to be so closely connected with the requirements of Englishmen—viz., the Potato and the Tobacco plant. Speaking of the latter in his famous "Westward Ho!" Charles Kingsley says, "There is no herb like it under the

canopy of heaven;" and if he had added similar words respecting the former as a vegetable there would be few to disagree with him.

How great and manifold have been the changes since those times, when we are told the utmost difficulty was experienced in getting people to eat Potatoes! Compare the tubers of Gerard's day with the splendid specimens of our own time, and note what cultivation has done for the Potato. Still we owe much to those grand old gardeners who could, or fancied they could, see a future before the novelty from the New World, and grew it in spite of opposition. One might fill pages in writing the history of the Potato, and yet had it not been for the tenacity of purpose with which the early growers stuck to their task there might have been little history to give. Though the public is generally a long time to appreciate the benefits of a new product, when once its worth is proved its popularity is assured. So with the Potato, which since gaining a firm footing has never looked back, and though in times of disease dark clouds have hovered over its fortunes its worth has prevailed, and never in the history of the tuber has its popularity been greater or its general qualities better than at the present time.

At the outset of Potato cultivation in this country it seems likely that more than one stock was available, or it would probably have died out through in-breeding. During the present generation so much attention has been given to the raising of new varieties that in size, appearance, and quality Potatoes have made greater progress than during the whole of their previous history. The deterioration of varieties is, I think, generally admitted, though there are those who are not of this opinion, and hold arguments to the contrary. The evidence, however, is overwhelming, as it requires but little exercise of the memory to recall the names of varieties that made sensations in their day, but have long since dropped from the ranks, and are never heard of now. As a case in point take that once splendid variety, *Magnum Bonum*. Perhaps no other ever attained such well deserved popularity; but in time its virtues began to decline. Growers who had been loud in its praises found fault with it, and tried others of more recent introduction, till now, though the once famous Potato is still cultivated, it does not rank among the best, and in time will be only a memory.

There is something to be said about the selection of varieties. Much has been done by horticultural shows in encouraging the cultivation of vegetables generally, and the Potato is no exception. In the case of these, however, prizes often go to tubers that have only good appearance to recommend them, and varieties possessing good bearing and cooking qualities are passed over in their favour. In order to check this it would be a good thing if schedules stated that every variety shown must be correctly named, and the all-round qualities of the Potatoes exhibited should be taken into consideration in making the awards. Visitors in going round look at dish after dish of Potatoes without being much the wiser, whereas if each one was named it would act as a means of guidance to the uninitiated in choosing sorts for cultivation.

With some new varieties, *Up-to-Date*, for instance, the vigorous top-growth is sometimes objected to, but it is a virtue rather than a failing. All varieties become weakened in course of time, and an excess of robustness is better than lack of it, for without vigour the yield cannot be large, and the variety more readily succumbs to disease. In choosing varieties quality is an important matter, and should be one of the first points to consider; but here we come in contact with a difficulty. A variety in one district may be tried and discarded as inferior, whereas on another soil its eating qualities are perfectly satisfactory. The only reliable means, therefore, of proving the worth of any apparently promising Potato is to give it a trial. There are some well-known standard sorts, however, that appear to be good on all classes of soil, and in the absence of any means of trial it is best to rely on these for the main supplies. No matter how prolific a variety may be, if it lacks quality it cannot meet present day requirements, and Potato dealers have found out that the demand for "good eaters" is increasing.

Passing to cultivation for the earliest crop of outdoor Potatoes, a plot of free working ground on a warm site should be selected. A liberal allowance of decayed manure, with the addition of leaf mould, old potting soil, and sandy refuse, spread on the surface and worked in, is found to be advantageous. Assuming the sets have been well prepared in boxes, the first or second week in March is a suitable time for planting, provided the soil is friable; if wet and adhesive it is better to wait a week or two longer. If the sets are placed about a foot apart in rows 2 feet asunder, and covered with 4 or 5 inches of fine soil, there is little more to be done till growth appears. Late spring frosts are always dreaded, and rough protective material should also be kept handy in case of need. Earthing must be done as growth proceeds, and by close attention to simple details the cultivator will have done his best in obtaining new Potatoes in June that will be very acceptable in the dining room.

Speaking of early varieties, the Ashleaf type must always be placed among the foremost. There are many selections. Veitch's Improved

Ashleaf, Sutton's Ashleaf, and Rivers' Royal Ashleaf are all excellent, but to grow this type well, fertile and friable soil is necessary. Harbinger is a fine free-cropping early Potato which should be tried in many gardens. Sharpe's Victor, of the true stock, is excellent, and has won for itself a prominent position. Duke of York bids fair to rank among the best of the earlies, and the finer tubers are useful for exhibition. Coming in a little later are such well-known sorts as Early Puritan, Webber's White Beauty, and Beauty of Hebron, which is still popular as an exhibition variety. Notes on main crop Potatoes must be deferred.—GROWER AND JUDGE.

(To be continued.)

THE HISTORY OF THE SOILS OF THE BRITISH ISLES.

(Continued from page 167.)

PEAT.

IN a horticultural point of view there exists a considerable difference between peat and the organic accumulations known as bog, or peat bog, although they are often confused. The one is the result of vegetable growth and decay on dry sandy or rocky surface soil; the other arises from vegetable growth and decomposition in water-holding hollows or choked up valleys into which the inflow of water keeps the lowland in a state of semi-submergence without absolute flooding, and in which Sphagnum Mosses, Rushes, Reeds, and Equisetum grow and decay, forming at length a spongy mass. By the arrest of vegetation swamps invade and destroy forests, the trees of which perishing add to the mass of decaying vegetation. Extensive areas are occupied in Scotland, and in England to a less extent; their increase has, in most cases, been arrested by drainage operations.

In Ireland peat bogs prevail in the widely extended depressions of that country, the heavy rainfall of the western extremity of the island having promoted their expansion. Cut and dried and employed as fuel the bog is of considerable economic importance, and its upper and more fibrous part is employed in the cultivation of certain classes of Orchids, but its use is restricted to few horticultural purposes compared to those to which peat is applied.

Instead of seeking for peat in the moist valleys or swamps we must go to the mountains or dry uplands or sandy plains where the Bell Heather blooms or Gorse and Broom thrive. In the north we must go to where the slow disintegration of the granite rock has left a sparse sprinkling of soil; there will be found a dark thin covering on the hard stone beneath, half vegetable soil and half sharp grit. This cut and stacked with the Heath growing upon it becomes the peat desired by gardeners; but this is only one instance. The superficial decay of the exposed parts of Laurentian rocks with vegetable matter, the result of the growth and decay of the low forms of vegetable life—Lichens, Mosses, and subsequently Grasses and Heath—give peaty soils of equal value. The old red sandstone in its less fertile divisions gives peaty deposits.

Millstone grit in its elevations affords a desirable peat suitable alike for Heaths and American plants. Exposed parts of the Bunter conglomerate are also productive of this soil; the greensand of Kent and Bedford give some of the best kinds. The estuary sands and gravels of Lincolnshire contribute to our available stores of this earth. The wide reaching Bagshot sand formation affords great supplies when decaying vegetation has added to its bulk and given the humus required to support the class of plants grown in it.

Differing from the peat bog soil, and still more from the Heather-clad peat of the hill and sandy plain, the black vegetable soil of the Fens still bears a resemblance to the former; a similarity resulting from each being the result of the growth and decay of aquatic and semi-aquatic vegetation, Hypnum fluitans in the Fen replacing sphagnum in the peat bogs. But the circumstances that promoted accumulation differed. In the one instance the bogs were fed by the lateral filtration of water and rain; in the case of the Fens, their vast expanse, computed as averaging 576,000 acres, was maintained in a swampy state by the natural drainage of the upper country reaching its lowest level; and by the flooding of the several rivers that traversed portions of its extensive area, those waters bearing the soluble portions of the soil through which they passed, and carrying the finer particles of mineral matter readily taken up by running water, diffused throughout the submerged mass of vegetation a certain amount of sediment which, while promoting the growth of the Fen plants in ancient times, added to the fertility of the resulting bog land on its reclamation.

The reclaimed Fen land of the present day is chiefly arable, and is excellent alike for cereal and root crops. Not possessing within its bounds mansions or villages of importance, its horticultural capabilities have not been extensively tested or required. Its wide treeless and hedgeless tracts and intersecting dykes give it a cheerless character, which is changed in the autumn season to one of interest, when it presents a rolling billowy sea of golden grain. The history of Fen land, and the result of reclamation, are the same in other parts

of the country where such circumstances exist, but nowhere on so extensive a scale. The rich vegetable soil of such districts is not suitable for fruit trees, but vegetables and certain flowers may be very successfully cultivated.

ALLUVIUM.

Loam, as we have already explained, is an inland deposit derived from the waste of the land, and distributed by the agency of river water. Alluvium is a combination of soils of which water has been the vehicle of transport, and to which rivers have largely contributed, and having been deposited in the estuaries or bays in which the streams have terminated, has been further amalgamated with the organic remains and mineral matters elaborated by the sea, and which as the deposits increased and the waters receded became dry land of the richest character. This is shortly the history of the wide alluvial tracts on our coasts, and especially that adjoining Fen land in Lincolnshire, covering about 384,000 acres. The process of reclamation is still going on, the rate of accumulation being from 9 to 10 feet a year. It has been computed that 64,000 acres have been added to land since the second century. Alluvial pasture land is of the richest character. Cereals are grown to great perfection; fortunes have been made by crops of Potatoes; garden products are of an excellence proportionate to the crops of the farm; bulbs are largely cultivated. In alluvium Nature has provided a compost of perfect fertility.

LACUSTRINE.

Although lacustrine deposits are less extensive and more isolated than the wide-reaching areas of black boggy land characteristic of the Fens, there is, nevertheless, a certain similarity of character in each, both being rich in humus. Like the soil of the Fens, the lake deposits become—when exposed and aerated, and subjected to the sweetening influences of the atmosphere—fertile, and valuable to both the farmer and gardener. Sandy soil is the best dressing to employ, as such soils are often deficient in silica, and induce a too succulent growth.—P. T. INGRAM.

ONIONISM.

It is perfectly evident that there is a new cult developing, the name of which is Onionism. It is a sort of mania, and is invariably attended by several well-marked symptoms, prominent amongst which is a tendency to tall talking. Perhaps the climax was reached by a grower who, in reply to a commendation of a bed averaging $1\frac{1}{2}$ lb. per bulb, replied nonchalantly, "Oh! those are my picklers."

In quite a number of unexpected corners of the country one finds these onionists. They are increasing in numbers as well as in conversational powers and flights of imagination. One reacts on another. A few years ago the average gardener never troubled about growing big Onions, but since the advent of Ailsa Craig, Cranston's Excelsior, Cocoa Nut, and other giant sorts there has been an ever-increasing tendency to grow special beds, wherein may be seen bulbs as big as the balls with which the Sirdar smashed up the Dervishes at Omdurman. The next thing will be the formation of a National Onion Society, perhaps with a 50-guinea challenge cup. Or we may even have a National Onion Hall, at which exhibitions will be held, and in which minor institutions, like the Royal Horticultural Society, the National Chrysanthemum Society, and the National Rose Society, will be magnanimously accorded corners.

Until this happy consummation be arrived at Onionism is homeless, but happy. It flourishes apace, and new adherents roll in. Not all of them are tall talkers; on the contrary, until they are met at the tent entrance with 2-pounders sticking out of their coat pockets their penchant is never suspected. This is the case with my latest onionist find, a man of small stature and quiet speech, but of irresistible energy. This desperate man goes in for yearly trenching, and the results are astonishing. On the top of one of the many tall hills which sprinkle the countryside between Ashford and Canterbury, where the soil is light and water an unknown quantity, is the kitchen garden belonging to Mr. Erle-Drax's pleasant estate, Olantigh. It is there that the big Onions are grown by the small yet energetic man referred to, whose name is Bond. He is a soil-worker of the most pronounced type. He trenches in the autumn, and leaves the surface very rough; but all the winter he is at it, scuffling it, worrying it, working in soot, lime, and burnt rubbish of all kinds, not to speak of a coat of manure between each two spits.

The first year Mr. Bond fell a victim to Onionism he grew bulbs turning the scale at 2 lbs. That was just to get his hand in. This year he had a splendid bed of Ailsa Craig, ranging from 2 to $2\frac{1}{2}$ lbs. per bulb, besides some fine specimens of Cranston's Excelsior, Cocoa Nut, and Lord Keeper. From the time these plants were put out in April until they were harvested in September they had not a drop of water except what fell from the clouds, which is a pretty good proof that the rooting area was of the right kind. It may be noted, however, as a singular fact, that in the first year of trenching this small man of large deeds brought his subsoil to the top, and instead

of regretting the performance, gloried in the 2-pounders above mentioned. I expect he will hear of this heresy now that his little ways are made known to a critical and censorious world.—W. PEA.

SEPTEMBER FLOWERS.

NOT yet have autumn winds and chilly nights robbed us of our treasures of leaf and flower; not yet have we to linger over a few flowers, the relics of those which have passed away. Though the harvest treasures are fast disappearing from the fields, those of the garden are bright with beauty and delight-giving as in earlier times. I shall, for a time, sally out into another garden to look upon its treasures. By the sea it lies near to Ratham Isle (to adopt for the time the name used by Crockett in his stirring tale of "The Raiders.") If Galloway has its hills and rocks, its wild moors, and wilder mountain sides, it has its gardens too. In one of these let us see what flowers are given in the ninth month of the year.

As we come round by the garden front we stand delighted by the white Passion Flower—*Passiflora Constance Elliot*—beautiful with its charming blooms. Wreathed with blossom has it been, and its chaste flowers are numerous yet. Delightful, too, is that fine plant of *Ceanothus Gloire de Versailles*, which covers a portion of the house-front with a sheet of pale blue flowers. On the garden wall hard by is a white-flowered *Ceanothus* as well, but it looks poor and ineffective after seeing the *Versailles Glory* in its full beauty. On the house wall, also, is a fine specimen of *Magnolia grandiflora*. Healthy does it look, but it is flowerless still, though one would expect it in a year or two to give some of its magnificent blooms. If the *Magnolia* is chary with its blossoming, truly prodigal is *Berberidopsis corallina*, which sheets the wall with its quaintly beautiful flowers. Who cannot admire it, and who cannot but rejoice that this corner of old Galloway can produce in perfection the flowers of this South American shrub?

Other choice shrubs there are, but we must wander on, for the garden has much to show. First must come the fine clumps of *Lilium auratum*, now some three years planted, and 6 feet high and laden with flowers. Among the beds of *Rhododendrons* and shrubs in and by the grass we go, seeing with pleasure how much progress they have made since last we looked upon them two years or more ago. There are not many flowers among them now, but we can well understand how fine these *Rhododendrons* were as we see how healthy they are. In one bed *Cytisus nigricans*, valuable for its late-flowering habit, pleases us with its yellow flowers.

Now we come upon the little lake just formed when last this garden was seen. Pretty is it with its placid waters through which the granite which forms its bed is seen where the water is not too deep, and with its fringe of plants now beginning to show what a few years will give. Wisely it is not intended that the *Nymphæas* should spread until the surface is covered, and delightful now look the floating leaves and fine flowers of *Nymphæas Marliacea rosea*, *M. chromatella*, and *M. albida*, with their surroundings. There, too, are the yellow flowers of *Villarsia nymphæoides*, and at the side the native *Ranunculus lingua* raises its spears surmounted by their Buttercup flowers. A bold clump of *Iris Kämpferi*, now out of bloom, but a short time ago laden with flowers, rises out of the shallow water by the margin, and two Side-saddle Flowers occupy nooks at the base of a high bank, and are alike curious and beautiful with their pitchers and flowers. One of these is *Sarracenia purpurea*, which forms an attractive contrast with its dark colour to *S. flava*, the other species grown here, whose yellow hues look bright by the water side.

The sloping and shelving rocks of granite above begin to be marked with green patches where the Stonecrops and Houseleeks have commenced to grow. Just above the fine *Hypericum calycinum* major opens its great yellow flowers, and near by in the grass are patches of bright purple—the flowers of *Colchicum variegatum*. The great *Gunnera*, *G. manicata*, is on the grass at one side, and when it has got hold will please all with its massive, rugged leaves.

As we leave the lake we come upon a bed of the best of the Cactus Dahlias, and examine these awhile and note among others how fine Starfish is with its pointed petals. A herbaceous border which we shall see by-and-by makes us cast longing eyes upon its imposing array, but our steps are turned towards the rock garden, which seems as if many years had elapsed since it first took shape. The sound of rushing water, which from a small rock basin finds its way to Water Lily pools below, greets us, and brings with its babbling noises a refreshing thought of coolness 'mid the bright sun. Treasures galore meet the eye of the gardener. Here is a fine patch of *Pteroccephalus Parnassi* with its hoary leaves and pale mauve flowers; there is the dainty little *Erodium Reichardi* with its white flowers; there towers *Bambusa nana*, which seems curiously inappropriately named when seen in association with the tinier flowers of the rock garden. Now we look with delight on some *Acaena* screening the rock or the pretty little *Arenaria balearica* covering it with a veil of green spangled with small white stars.

Anon we think with astonishment of the vagaries of plants which

makes *Echeveria glauca* form a sheet of glaucous rosettes in the crevice of a perpendicular rock, and touching the water of the pool below. Near by it also is the Chinese *Sedum Sieboldi*, with its hanging stems just touching the water and about to bloom. In the small bog, Irises and Rushes struggle together, and by its margin *Primula rosea* has formed a spreading mass which must be delightful when in bloom. There is *Globularia nana*, and here, as we look at that high mound, is a broad festoon or *Polygonum vacciniifolium* hanging down the rocks. More frequently seen in the border *Clematis Davidiana* looks surprisingly beautiful hanging over the stones, its pale porcelain-blue flowers very fine indeed. The glory of the rock garden may truly be over for the season; but the beauty of the leaves, the habit of the plants, give pleasure, even if not enhanced by the brightness of flowers named and others left unnoticed now.

The brightest time of the purely herbaceous borders is largely past, but there are yet great towering spikes of *Bocconia cordata*: immense masses of Sunflowers, Aconites, Phloxes, Japanese Anemones, Rudbeckias, Peach-leaved Bellflowers, Pentstemons, and numerous others. Fine does this border look with the wall behind clothed with *Tropæolums* and other climbers. Through the garden gateway go we now, and we are in a scene brighter still, for annuals and bedding plants are judiciously used to take up the tale when the earlier flowers have gone. We see the neat *Coreopsis tinctoria*, blue Salvias, Asters, brilliant scarlet Lobelias, early Chrysanthemums, Nicotianas, Ageratums, and the host of other flowers which can be had by those who care for such. Very brilliant and beautiful they are, and though behind them grow plants prized more for their utility than for their loveliness, what of that? Those pyramids of Sweet Peas cannot supply our creature wants, and he has a poor—nay, an immeasurably narrow—idea of beauty who does not see in that Cabbage or that Lettuce something of that quality of symmetry which gives pleasure to the mind. In their colours, too, differing though it does from the hues which give brilliance to those Gladioli, there is charm as well.

This is not our theme, however, nor shall we seek to tell of the flowers and plants which, under glass, please those who love them best. Autumn is indeed kind to us. Grain and fruit and flowers to minister to our needs and enjoyments are freely given. Of some of these gifts of flower we have essayed to tell in halting and imperfect ways.—S. ARNOTT.

SOME OF JAPAN'S FLORA.

DURING a trip through Japan some months ago, I was much struck with the beauties of the vegetable life of the islands. Many growths impressed themselves upon me as almost unique compared with any other country through which I have travelled. At a lovely little place called Nara, famous for its beautiful deer and wonderful Shinto temples, there are magnificent *Cryptomerias*, not such as we have round our English lawns, but gigantic mammoths.

A notable feature in parts, especially near Kioto, towards the river, which affords such excellent and exciting sport by shooting the rapids in flat boats (an entertainment enjoyed by the Duke and Duchess of Connaught some years ago), is the forests of delicate light green Bamboo, waving their supple stems in the breeze. These possessed a peculiarly subtle charm and fairy-like fascination. But perhaps more striking than anything was the size of the Camellias. I saw them in various parts—quite wild, of course—but perhaps at their best near the coast some twenty miles or so from Yokohama, and also in a lovely little islet in the same vicinity. Here they were thick-stemmed trees of a foot and more in diameter, in full flower, and attaining to a height of 30 to 40 feet.

The only native fruit I tasted was dried Persimmon, a species of the Date Plum, which I understand is being introduced into England. I was too early to experience their summer products. The Japanese are intensely fond of flowers, especially the blossom of fruit trees. In all the Temple gardens—which are used as much for pleasure fairs as purposes of religion—there is a wondrous display of Plum, Peach, and Cherry blossom. These trees, indeed, are cultivated almost entirely for the blossom, and small branches are cut wholesale for festivities and decorative purposes. The Ueno, and other parks, too, in Tokyo, the capital, are gorgeous with fleecy clouds of pink overhead.

The Chrysanthemum, of course, I saw nothing of, or the beautiful Wistaria, which is so universal, save the huge growths of the latter, of which there was abundant evidence; tangling and twining about up great trees and trailing down in innumerable cords, and forming oftentimes what appeared to be a veritable stem in itself. Neither did I see the curious Lotus flower which they are so fond of working in their lacquer and objects of art. This, however, I had previously seen in Singapore. To do justice to the striking natural beauties of Japan an entire twelve months would be necessary, as I heard on all sides the autumn foliage, lasting till after the turn of the year, is a sight so marvellously gorgeous that no one should lightly miss it.—J. A. CARNEGIE-CHEALES.



CATTLEYA ELLA.

ON Tuesday, September 6th, Messrs. J. Veitch & Sons, Ltd., Royal Exotic Nursery, Chelsea, exhibited amongst other Orchids at the Drill Hall, Westminster, a hybrid Cattleya named Ella. To this the Orchid Committee of the Royal Horticultural Society recommended an award of merit. It is a hybrid that resulted from a cross between *C. Warscewiczii* and *C. bicolor*, and in form (as may be seen from the woodcut, fig. 36) and colouration is very handsome. All the segments are of great substance, the labellum being exceedingly striking. The colour is rich velvety crimson, with a heavy suffusion of purple in the centre, and a light crimson slightly fimbriated edge. The stout sepals are delicate purplish rose, while the petals, which are of wavy outline, are a deeper shade of the same colour. The boldness of the pose of the flowers and the richness of the colours secured for it much admiration.

DENDROBIUM DEAREI.

I HAVE seen many fine plants of this useful and pretty species during the last few weeks, and as this is the duller of all seasons for Orchids it makes it all the more useful for keeping up a display. For cutting, too, there are few Dendrobies to surpass it, the pretty white flowers, relieved by a green centre, working in nicely for every purpose that cut flowers are required. To grow it well a high temperature and plenty of atmospheric moisture, and being a close grower, with a short distance only between the nodes, a rather long growing season is necessary, so that the young bulbs may be well ripened after flowering.

ONCIDIUM PHYMATOCHILUM.

When well and strongly grown with tall branching spikes of flower few species are more beautiful than this, the contour of the spikes being exceedingly graceful, while the individual blossoms are also very pretty. The sepals and petals are elongated and reflexed, pale yellow or creamy white with brown spots, the lip white with a very prominent crest. The plant is a native of various parts of Brazil, and does well in a comparatively cool house if well looked after as regards potting and keeping to its proper routine as to growing and rest. It was introduced about 1840.

CATTLEYA GASKELLIANA.

The flowers of this popular Cattleya are not so large as those of *C. Mossiae* or *C. gigas*, but they are extremely pretty in the best forms, and come nearest those of *C. labiata autumnalis*. They are fully as variable as the latter, and very useful in keeping up a display before these come in. In its season of flowering I have not found *C. Gaskelliana* quite so constant as the other labiata kinds, such as *C. Mossiae*, *C. Trianae*, and others, and where a fair number of plants is grown the species keeps up a display for several months. Its culture is easy, and consists in growing it strongly until it flowers, and resting it afterwards until growth commences again in spring.

This is not always possible, for no matter how carefully the atmosphere and temperature are regulated, a few plants sometimes grow out of season. When on a large plant only one or two of the growths do so it is as well to ignore this, and keep the plants to their rest as usual, but if the majority of the growths on a plant start out of season, then it is the best practice to grow the specimen on rapidly and get this second growth finished up as early as possible.

VANDA CÆRULEA.

Few Orchids have so many encomiums lavished upon them as this when it is presented in good cultural condition, and none is more worthy of admiration. The lovely blue of its flowers and their graceful pose make it a great favourite everywhere, and though many growers do not succeed with it, it is surprising how easily it is managed when a suitable position is found for it. Light and air in plenty, and a buoyant rather than a moist heavy atmosphere, are the conditions

under which it thrives, and, in company with many other Vandas, dislikes a steamy overheated house. The latter are not at all the conditions under which it is found growing naturally, and although I am not an advocate for following exactly the conditions that obtain in the natural habitats of Orchids, it is not wise to go to the other extreme and ignore them.

The Cattleya house is fully warm enough, and the growth will be in most cases more satisfactory if the plants are kept close up to the ventilators in the roof. Good specimens have been grown in fruit houses and even ferneries, while in more than one instance I have seen fine plants in a house devoted to *Odontoglossums* and other purely alpine Orchids. Thus it will be seen that the plant is not fastidious as to temperature, but the fact remains that in many places it absolutely refuses to thrive though the conditions are apparently right in every respect. As with many other Orchids, when a suitable place is found for it, the plants must be allowed to remain, excepting, of course, in case of a vinery or Peach house, when it will be necessary to remove it during the winter.

V. cœrulea greatly dislikes a close or heavy compost, and is not,



FIG. 36.—CATTLEYA ELLA.

as a rule, satisfactory in large receptacles. Nice specimens may be reared in wood baskets about 5 or 6 inches across, and these may be quite half filled with crocks for drainage. Sphagnum moss and charcoal form the best compost, and is easily added to as occasion arises without disturbing the plants. Plenty of root moisture must be given during the growing season, and though much less is required while at rest, it is bad practice to unduly dry them, especially during early winter. Some time in spring a limited supply stimulates root action, and is for this reason beneficial, but the deficit must be afterwards made up or the plants will be weakened. Insects are not particularly troublesome, but should any appear they must at once be destroyed.—H. R. R.

BLACK MUSCAT GRAPE.—The delicious Muscat Hamburg or Black Muscat Grape is grown with notable success by Mr. Bond, the clever young gardener at Olantigh, near Wye, Kent. Although but poorly supplied with accommodation, having, indeed, only one small vinery, he is able to show some beautiful bunches, as excellent in size of berry as they are in colour. To see this noble and exquisite Grape with model bunches and huge berries as black as sloes is a real pleasure. In the same house are grown Black Hamburg and Black Alicante, the latter of which is also done well, but the Black Muscat is the gem of the house.—W. PEA.

NITROGEN AND FOOD SUPPLY.

DR. WALTER MAXWELL, Director and Chief Chemist of the Experiment Station and Laboratories of Hawaii, sends some observations to the "Daily News" on the nitrogen supply as dealt with by Professor Sir William Crookes in his Presidential address to the British Association. In the course of these he says:—There was a period when nitrogen practically did not exist at all upon the surface of the solid parts of the earth, and we have no grounds for considering that during any period of the earth's history the nitrogen content of the soil and surface was greater, nor even as great, as it is to-day. We have to regard the atmosphere as the primary source of the present solid forms of nitrogen existing upon the earth's surface. Vegetable organisms are the agencies by which the element is conveyed from the air to the earth, and plant and animal decay is a means by which the element is returned to the atmosphere. This grand circulation of the element has proceeded from the day of the dawn of vegetable existence, gathering in volume with the augmentation of living and dying forms.

As to our knowledge of the means or modes by which Nature conducts this "circulation" of nitrogen, we are bound to consider it much less precise than the tenor of Professor Crookes' remarks would lead the public to believe. Since it was discovered that plants have the power of taking nitrogen direct from the air, and up to the present day it has been believed that only certain plants exercise this function. This limiting of the function very much to certain organisms (Leguminosæ) is purely the result of the failure of our present technical means of investigation to observe the effects of natural processes unless they are on a palpably visible scale, and our inability to detect the more delicate processes. Physiological-chemical authorities have said "the legumes take nitrogen from the air and convey it to the soil; but the Graminæ do not exercise this function." But the modes and proportions by which this transfer of nitrogen is conveyed from the air to the soil by the great mass of vegetation are too delicate to be measured by means at present in our use. For example, 130 lbs. of nitrate of soda, which is enough to cause the difference between a good and a bad crop of Oats, and about the amount commonly added to a crop, contains 20 lbs. of nitrogen. When this amount is distributed in the soil over an acre of ground we have not a single chemical means that can detect the addition, or of twenty times the amount of this addition of nitrogen to the soil; yet the Oat and Wheat crop detect the addition. The writer has repeatedly, and for years, noted this subtle office of cereal crops, even where the ground may be said to have been full of organic nitrogen. In tropical soils it is not unusual to find 1 per cent. of nitrogen in the surface soil, which means not less than 35,000 lbs. of nitrogen per acre to a depth of 1 foot. This mass of nitrogen, however, is present in such an extremely unavailable state that the artificial addition of merely 20 lbs. or 50 lbs. of nitrogen, in an available state, is at once detected and used by the plant.

Again, concerning the forms in which plants take up nitrogen that is already at hand in the soil, our knowledge is still very inexact. Even to-day authorities maintain that plants can only assimilate nitrogen as nitrates, and after it has been prepared by the soil bacteria for reception; further, that these soil bacteria can only carry on their work of "nitrification" in soils free from acidity or sourness. Well, the writer has analysed Ferns found growing in the most acid of tropical soils, and by the sides of fumaroles, near by active volcanoes, where the sulphur from the sulphur acids escaping in the steam was deposited on the leaves, and yet these Ferns were very rich in assimilated nitrogen. We give these examples in order to indicate how elementary is the state of our present knowledge of natural processes, and we quoted the nitrogen contents of soils in order to distinguish between available and at present unavailable nitrogen, the contents in the latter form being still ample to assuage any immediate fears in the presence of the picture of coming desolation that Sir William Crookes has put before us.

If we judge Prof. Crookes' predictions from the ground of the present social and economic situation, a most comforting sense of his fallibility comes upon us. Never has the civilised population of the earth been so large and so well fed, and at no time have breadstuffs been so ample and cheap.

Concerning the immediate waste of nitrogen that is happening by the discharge of sewerage into the sea, this is not a total and permanent loss. Nitrogen, as well as lime and phosphoric acid, is as much needed by the animal and vegetable growths of the sea as by cereals grown upon the land, and all these elements are in part returned to the land in the forms of the millions of tons of fish, &c., and of plant growths that are brought from the ocean to the shores. Moreover, we can assure Sir William that the escape of nitrogen to the sea in the waste discharges from cities is not a tithe of the weight of nitrogen which is borne direct from the land to the sea by common land drainage. These phenomena are a part of the grand system of circulation of the elements which compose the mass of matter. As a net result of this circulation the amount of nitrogen in solid forms within and upon the earth's surface, and which is available or can be made available, is almost certainly greater to-day than at any other period of the earth's history.

I therefore do not take the view of Sir Wm. Crookes, that the economy of Nature is about breaking down, and "that starvation must be averted by the laboratory," and that "before we are in the grip of actual dearth the chemist must step in to avert the day of famine." One part of the work of practical agricultural chemists to-day is to try to promote the conditions by which the natural transfer of nitrogen by plants from the air is accomplished, and to render available, with the least amount of waste, the vast reserve of nitrogen that is locked up in the soil in organic

forms. I have no doubt that the interesting calculations of Sir Wm. Crookes will find a place amongst numerous others of a similar nature which the world has received and talked of, but which have not seriously disturbed the everyday economy of Nature.

PLANTING SPRING CABBAGE.

THIS is one of the most important of the vegetable garden crops, and merits the best attention as regards soil, situation, and proper care in planting. If seeds were sown in July or the early part of August, the plants will be sufficiently large and strong to be planted permanently from the seed beds or lifted from the quarters where the seedlings have been pricked out several weeks in order to strengthen.

This system of transplanting the seedlings as soon as they are large enough for the purpose is adopted by many good growers, because they find that the general growth, sturdiness, and fibrous root formation is encouraged thereby. Each plant when pricked out has a clear space in which it can develop, its leaves receiving an equal share of light and air; consequently the whole plant has an upright, sturdy character which fits it well for its winter endurance. In some parts of the country Cabbage requires both to be sown early and planted as early in September as possible, so that the plants may get well established before the growth in autumn practically ceases. It is not desirable in any district to have large and sappy soft-leaved plants, as these invariably stand the poorest chance of passing through the vicissitudes of winter weather. Small but sturdy plants are far superior, and such, planted to constitute the main crop, may usually be relied upon to pass through ordinarily severe weather without serious injury.

In selecting plants, therefore, it is best to place the most forward in rows together. If very early hearts are required these plants may be expected to furnish them if given moderately rich soil and a somewhat sheltered position.

The best position for the main crop is undoubtedly an open one on firm, fertile, but not over-enriched soil. Here they will grow slowly but hardily. Cabbages never grow well on poor land, but the plants placed out now will succeed admirably on ground that has been liberally manured for a previous crop. Heavily manuring now, and then planting is not advisable except on the very poorest soil, after which it should be made firm, so that a steady, sturdy growth may be induced rather than a strong one in rich loose soil.

Having prepared the ground well, either by forking or digging so as to intermix the enriching material and break down the clods, very light soil should be made firm by treading or rolling, only doing this, however, in dry weather. The firming process not only consolidates the particles, rendering rapid evaporation of moisture less, but it assists the freer formation of a mass of fibrous roots.

Draw drills 18 inches to 2 feet apart, according to the variety of Cabbage to be planted. The most generally useful distance the rows should be apart is 2 feet, and the space between the plants 18 inches. Some growers desirous of securing early cutting of small hearts place the plants a foot apart in the rows. This affords an opportunity to cut out every other plant before the whole grow too large to spoil one another. The drills may be 3 inches deep. They serve to hold water for the benefit of the plants during the early part of the time after planting, and they also afford a little protection. Subsequently the soil may be levelled close up to the stems, as that will make the plants more secure in the ground, they being liable to be loosened by strong winds.

The best plants ought in all cases to be selected for planting. Those drawn direct from the seed beds cannot be obtained with soil adhering to the roots if the seedlings are growing thickly together, but if the seeds were sown thinly a large number may be obtained with good balls of soil if lifted carefully in a moist period. It is not material, however, that soil should adhere to the roots, as with care in placing the roots straight down in good soil and affording a little water to them at once the plants will quickly be established.

The seedlings previously transplanted in a bed to strengthen should, if the weather be dry, have a good watering the day previous to planting, when each plant may be carefully lifted with all its roots preserved among plenty of soil which lifts with the roots. Smaller plants may be left in the beds or dibbled in 4 inches apart to remain for the winter and plant out in spring. After a severe winter there are often many vacancies requiring filling up, and these plants are useful.

Should slugs prove troublesome in moist weather, the largest must be sought for and destroyed. As a preventive against their ravages it is advisable soon after planting to scatter newly slaked lime or soot about the plants. Small plants soon suffer seriously from these pests, which attack the soft stems and riddle the leaves.

Frequent hoeing in dry weather may be practised. It is an aid to growth; a disturber of slugs, which hide in the soil under the lower leaves; it warms the soil by admitting air, and keeps down weeds.

Rich and stimulating food applied to Cabbages during winter may prove harmful, but after severe frosts are past the crop cannot be too much encouraged to have Cabbage of the highest excellence. Dressings of soot, nitrate of soda, applications of liquid manure, guano, and other stimulants are excellent, with plenty of hoeing to render the surface soil loose, promote rapid growth.—E. D. S.

GUIDANCE FOR AMATEURS—TUBEROUS BEGONIAS.

"WOULD you get some of your correspondents who are Begonia growers for exhibition to give us struggling amateurs some hints as to the production of large double blooms, potting soil manure, propagating from cuttings, and keeping tubers through the winter? They are largely grown in this district, and advice would be the greatest boon." Thus writes a correspondent from Ireland, where Begonias ought to luxuriate, and it is a pleasure to endeavour to supply the desired information.

The large double blooms of tuberous Begonias are the result of growing plants which have been raised from a high-class strain of seeds. Any of the leading firms of seedsmen can supply reliable stocks, either double or single, and from the former a large percentage of double flowering varieties will be raised. By carefully selecting the best annually excellent varieties will ultimately be secured. A quicker but a more expensive method is to purchase tubers of the double varieties in spring, start them into growth, and pot as required.

Much, however, depends on good cultivation of the tubers from the first start into growth in spring. They ought to be grown without too much heat, but with plenty of light and air. To grow them for exhibition, strong healthy tubers may be started early in March. Place the tubers first in small pots, giving them the assistance of slight bottom heat, and immediately they commence growth stand the pots as closely as possible to the glass for receiving the benefit of light. The most suitable temperature is 55° to 60°, which will keep them steadily growing. Before the small pots are crowded with roots transfer the plants into a size larger, clean, well drained, and dry pots, so that the plants will turn out without injuring the roots at the next shift. Starting the plants too early and drawing them up tall and spindly in too much heat is the cause of many failures. They succeed admirably on damp ashes in cool frames during the summer.

The best soil or compost for potting is well-decayed turfy loam broken up moderately small, two parts; decomposed manure, dried and crumbled cow manure being suitable, one part; leaf soil of a sweet character, one part; a little crushed charcoal, and a liberal addition of sand. Mix the whole thoroughly, using it in a moist but not wet condition. Do not pot too firmly and always afford the plants plenty of light, but shade from the brightest sun. Water carefully, especially just after potting, and avoid letting the plants become root-bound before giving them a shift until the flowering size is reached. When they have filled these with roots weak liquid manure may be given, varying with small sprinklings of artificial manures. The plants must not be crowded together at any stage. The growths may require to be lightly supported to prevent injury and to form neat and symmetrical specimens. Attacks of green fly must be guarded against, but if cultivated and managed on the lines indicated these insects will scarcely be seen.

The propagation of tuberous Begonias by cuttings is not so general because of the ease with which plants may be raised from seed. The growths most suitable for cuttings are sturdy young flowerless side shoots. These can be taken off with a heel and inserted in small thumb pots filled with light sandy compost, kept close and moderately moist in a frame until rooted. The rooted cuttings ought then to be kept steadily growing until the leaves die down. July and August are the best months to propagate by cuttings.

Tubers are frequently lost in winter either through being kept too dry and warm or too wet and cold. They winter the best when kept in the pots in which the plants flowered. When the leaves show signs of ripening the supply of water must be gradually diminished. Store the pots in a position where they are not affected directly by artificial heat, also where they are safe from drip. A greenhouse temperature of 50° is the most suitable for wintering the tubers, and if the pots are surrounded with cocoa-nut fibre refuse the tubers will be kept in a more uniform condition of moisture and temperature. Water must not be applied to the soil on any condition between the period of the leaves dying down and the tubers starting into growth the next season.—AN EXHIBITOR.

NEW CACTUS DAHLIAS.

THE present season has been somewhat prolific of new Cactus Dahlias. By these I mean varieties good enough, if put into commerce, to be brought into the National Dahlia Society's select list. But all are not equally good, and it is hoped that only the very best will come into the market. The standard of excellence for these Dahlias is sharper each year, for no sooner is any variety of special or peculiar excellence presented, but it at once expels some other variety of similar shade, and even increases the general excellence of the whole. There is an admirable illustration of this seen in the new dark maroon *Ranjitsinhji*, one of Mr. Humphreys' seedlings.

A year or two ago the best of this dark colour was *Matchless*. This year it is excelled by *Night*. That variety's petals are somewhat broad and coarse. Those of the namesake of the famous cricketer with

the hard-to-spell name are narrow, pointed, and of the very best Cactus form, quite a *Charles Woodbridge* in type. Then of scarlets the original best was *Juarez*. Next came *Gloriosa*, and both were superseded by the superior *A. J. Deal*, a seedling of last year. True scarlets come less free than do salmon and carmine shades, however. Mr. Burrell of Cambridge is one of the most fertile raisers. His *Lucius*, which was the premier new variety of the Crystal Palace Show, is of the incurved Fantasy form, but is much better, and in colour rich salmon carmine. *Mimosa* is of similar form, but is slightly redder, and a very pleasing variety. Another good one is *Acis*, colour rich ruddy carmine. *Zampa* is a fiery carmine *Charles Woodbridge*. *Antelope*, a greatly improved Fantasy, colour rosy scarlet. *Madge Wildfire*, though not a large flower, is remarkably good. Its colour is reddish salmon. *Orient* is rosy scarlet, and *Auburn* a rich salmon, after *Britannia*.

Amongst the best from Messrs. Keynes, Williams & Co., Salisbury, were *Viscountess Sherbrooke*, salmon carmine, a beautiful flower. There were several others of this set, but rather lighter; the one named was the best. This firm also showed at the Royal Aquarium Midget, pure white and fairly good Cactus form, but rather too small perhaps; whites, however, come very seldom. A very remarkable flower is their Progenitor, colour reddish crimson, the points of the petals being lacinated, resembling stag's horns. It may not be a first-class Cactus, but it looks like originating a new type. *Esmeralda*, very rich ruddy carmine, is yet another of this firm's seedlings.

One of the finest seedlings is Mr. Stredwick's *Magnificent*, cream, shaded rosy buff. This is a variety that cannot be too highly commended. Also very good is Mrs. *Bever Barker*, crimson, shaded rose. This raiser also has a seedling, pale primrose yellow, as shown at the Palace, even better than his *Daffodil* of last year. A few others were J. F. Hudson, from Messrs. Cheal & Sons, quite a rosy magenta coloured Fantasy. *Ebony*, from Mr. Mortimer, was, as its name implies, a rich dark, and an improved *Night*. *Lady Lonsdale*, terra cotta flushed rose, was a charming flower. This list suffices to show how rapidly new Cactus Dahlias are being raised. The loveliest coloured seedling, but not a true Cactus, though beautifully decorative, was *Humphreys' Mrs. Dickson*, colour rosy pink. There is no true Cactus of this charming colour yet.—A. D.

BULB-FARMING IN IRELAND.

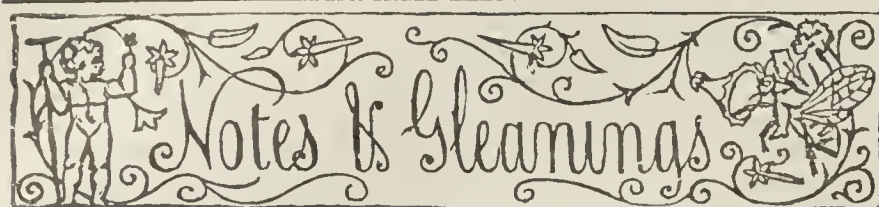
WHILE in Ireland in June last I obtained some particulars of an interesting experiment in bulb-farming at present being engaged in by the enterprising firm of Messrs. Hogg & Robertson, seedsmen and nurserymen, Dublin. For some time Mr. W. Baylor Hartland of Cork and Mr. T. Smith of Newry have been growing considerable quantities of *Narcissi* and *Tulips*, but the enterprise of the Dublin firm is on a larger scale, and in view of the interesting article on "Flower Farming in England" in the *Journal* of July 28th (pp. 59-60) a brief account of what is being done by them at Rush, a few miles from Dublin, may be of interest.

The firm has 7 acres in its own occupation, besides plots from time to time rented in the locality. The soil is almost pure sand, and is heavily manured with dairy-yard manure, but in order to avoid danger to the bulbs each time the manure is applied (every three years) a strong growing crop is taken off as a preparation for these. The experiment was begun in 1892, so that ample time has now elapsed for proving whether the treatment was satisfactory or not. As will be seen from the particulars kindly furnished to me at my request by Mr. James Robertson, the stock of bulbs is a varied one. Only small stocks were procured at first, so that the present one may practically be considered as home-grown. A large number of *Narcissi* of standard varieties are grown successfully, and the results of the several years show that the treatment given produces healthy bulbs in plenty.

The *Tulips* are very largely grown, and it is interesting and very satisfactory to see that so many of the *Tulip* species succeed at Rush. Such choice *Tulips* as *T. Kolpakowskiana*, *T. Kaufmanniana*, *vitellina*, *linifolia* (a very beautiful little plant), *Sprengeri*, *Batalini*, *Didieri*, and many others are successfully cultivated. No fewer than thirty choice varieties of the "Darwin" *Tulips* are grown. Included in these are the *Sultan*, *Herschell*, *Medusa*, and others.

The late-flowering florists' *Tulips* are also represented by a large stock of bybloemens and bizarres, while such popular late garden *Tulips* as *Golden Crown*, *Golden Eagle*, *Picotee*, and *White Swan* do very well and form large bulbs. *Parrot Tulips* do splendidly, and either the excellent stock or the method of cultivation enables it to be said with truth that they never have any "blind" ones at Rush. Many growers would like to be able to say this. The best of these showy varieties are included in the collection. Early single *Tulips* are represented by about forty varieties well selected as among the best of an ever popular and beautiful class of flowers. The *Pottebakker* sorts, *Cottage Maid*, *Chrysolora*, *Wapen van Leiden*, and *Rosa Mundi*, may be named. About thirty sorts of early and late double *Tulips* are grown also. English and Spanish *Irises* have also been taken in hand with good results, and *Anemones*, *Ranunculuses*, *Gladioli*, and miscellaneous bulbs have received attention.

It is gratifying to know that so interesting an experiment, and one, too, which must have involved the use of a considerable amount of capital, is proving satisfactory to the growers so far as increase of bulbs and the quality of the produce is concerned. Mr. James Robertson is, as may be expected, keenly interested in the success of the enterprise. All who have at heart the furthering of industries which will give employment to a number of Irish workers will hope that the returns will prove so satisfactory as to lead to a large extension of the bulb-growing industry at Rush.—S. ARNOTT.



WEATHER IN LONDON.—On Thursday, Friday, and Saturday of last week the weather was intensely hot; indeed, on the first-named the thermometer stood at 91° in the shade. This is the highest September temperature for just thirty years, as is pointed out in another paragraph. Sunday was slightly cooler, while on Monday morning a light rain fell until about 8.30 A.M., when it cleared, and the sun shone brightly. In the evening it was considerably cooler, and a refreshing breeze blew. On Tuesday it was much milder, and occasional showers fell. At the time of going to press on Wednesday it was bright and warm.

— ISLE OF WIGHT.—The first show in connection with the E. Cowes Horticultural Society was opened in the Town Hall on the 7th inst., by Mr. J. Lee-White, President of the Society, who was supported by Mr. G. Groves, J.P., C.C., Chairman of the Society. The exhibits were of first-class quality, and the competition keen in most classes. The principal prizewinners were Messrs. C. Orchard, J. Bastiani, J. Heygate, A. Saunders, W. Hills, S. Cotton, J. Niblett, C. Martin, W. A. Kent, and A. Hills. For table decorations, epergnes, and baskets Mrs. Heygate, Miss Blake, Miss M. Bastiani, Miss R. Bastiani, and Mrs. Brading were most successful. The Judges, Messrs. Amys and Wills of Southampton, did their duties in a very satisfactory manner. The show undoubtedly reflects great credit on the Hon. Secs., Messrs. D. S. Heath and A. Hills, and a hardworking Committee.

— MARROWS WITHOUT MANURE.—Certain cantankerous persons have been heard to declare that gardeners never own to being beaten. Perhaps not. It is certainly more pleasant to be able to point to a success than a failure, especially if the good result is based on a well-defined, even if unpopular, principle. I am in the happy position of shining by comparison with certain good neighbours of mine with the humble but useful Vegetable Marrow. Plants from the same box have in one case done well, and in others very badly. They were planted by the same hand, on the same day, and in similar positions. The only difference was that the "hand" in question was allowed to use as much manure as he liked, except on my side, where he was restricted to a couple of forksful for one plant, and not permitted to use a particle for the others. These plants have gone through the long spells of hot weather in exuberant health, and fruited persistently. The others have dried off. The common practice of planting Marrows on a heap of manure is a vicious delusion. The mass becomes parched, and unless copious watering is resorted to failure results.—W. PEA.

— PROPAGATING POTATOES BY EYES.—In a cutting before me from one of the horticultural papers, is a reference to the famous competition in Potato production instituted by Messrs. Hooper & Co. of Covent Garden. But the paragraph gives the date as 1895, which is, of course, wrong, and I think must have been intended for 1875, as, so far as my recollection serves, it must have been so long since that the competition took place. I well remember seeing the huge heaps of tubers grouped in one of the Royal Horticultural Society's arcades at South Kensington, and of the astonishment displayed on every hand that such enormous quantities of tubers should have been obtained from single pounds of sets, Mr. J. Pink, at that time gardener to Lord Sondes, Lees Court, Faversham, heading the weights with Eureka 647 lbs., and Snowflake with 372½ lbs. Eureka thus gave the immense product of not less than 11½ bushels from 1 lb. of tubers. But the method of propagation was most artificial, the tubers being started in warmth, then shoots taken off, rooted as cuttings, grown on in pots, and so on, increased indefinitely so long as increase was possible. Just recently Mr. Forbes of Regent House Gardens, Surbiton, sent me a note of the results of his simpler method of propagating 2 lbs. of Carter's Snowball Potato last spring. He scooped out the eyes singly with very small portions of flesh attached, seventy-six in all, and planted them, just as they were, in a shallow drill 90 feet long. These eyes were not buried deep, fine soil being used to cover them. All grew, and when the crop was lifted the other day the total produce, all sound, was 220 lbs., or about 3¼ bushels. That was not a bad result. Of course planting sets of this description could hardly be done on a large scale, but still the product shows that after all size of set seems to have little to do with productiveness, in spite of many trials and experience to the contrary.—A. D.

— ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Floral meeting of the Royal Horticultural Society will be held on Tuesday, September 20th, in the Drill Hall, James Street, Westminster, 1 to 5 P.M. A lecture on "Fruit Growing in Suburban Gardens" will be given at three o'clock by Mr. W. Roupell, F.R.H.S.

— DEATH OF MR. JOHN MALLENDER.—We much regret to have to announce the demise, which occurred on the 29th ult., at Oban, Scotland, of Mr. John Mallender, the only son of Mr. Joseph Mallender, the Gardens, Hodsoek Priory, Worksop. The deceased was only twenty-five years of age, and much sympathy will be felt for the well-known Notts gardener in his bereavement.

— THE AMENITIES OF JOURNALISM.—We read in an evening paper that "the 'Daily Telegraph' very courteously placed its war despatches at the disposal of the 'Times,' which, owing to Mr. Howard's death and Colonel Rhodes's wound, had no messages of its own from Omdurman. This is an instance of journalistic good feeling which is well worthy of note." It is with pleasure that we are able to note the prevalence of good feeling that exists among those who happen to be responsible for the journalism of gardening. May it long continue—each organ doing its best for itself and constituency, and all, in the aggregate, the most that can be done, in friendly rivalry, for the prosperity of Horticulture.

— ISLE OF WIGHT HORTICULTURAL ASSOCIATION.—The members of the above Association had a most enjoyable outing on Saturday last to Worth Park, the residence of Mrs. Montefiore, and to the fruit nurseries of Messrs. J. Cheal & Sons, Crawley, Sussex. The day was beautifully fine, and everything passed off satisfactorily. The day will undoubtedly be a red-letter one in the history of the Association. The Island Association is getting very strong, numbering at present some 300 members, each of which takes very great interest in the welfare of the Society. It is decided to hold another fruit exhibition this year at Newport, when any outside assistance will be greatly appreciated.—S. H.

— THE OAKWORTH HOUSE WINTER GARDEN.—As will be seen by advertisement in another column, this splendid structure, which was erected and furnished by the late Sir Isaac Holden, Bart., at great cost, is, with its contents, and the contents of other structures, to be sold by auction by Messrs. Hepper & Sons, Leeds. The catalogue consists of thirty pages, and comprises 883 lots of plants, materials, and appliances. The sale begins on the Oakworth premises at eleven for twelve o'clock on Thursday, 20th inst., and continues on the two following days. The products may be viewed from ten to four o'clock on the 17th and 19th inst. Among the diversified assortment of plants will be found unusually fine specimens of Palms and Tree Ferns. Oakworth is on the Keighley and Worth Valley branch of the Midland Railway, and the gardens are near the station.

— EXCESSIVE SEPTEMBER HEAT.—In London, Thursday last was not only the hottest day we have had this year, or as a matter of fact since August, 1893, but the hottest September day experienced for just thirty years past. At eight o'clock in the morning the thermometer in the shade stood at 69°, and by 10 A.M. it had risen to 83°, while at about midday it reached a maximum of 91°, the reading being no fewer than 24° above the average for the month of September. To find an equally warm September day we must go back to the year 1868, when the thermometer at Greenwich rose on the 7th of the month to 92°. In no other September of the past fifty-seven years did the thermometer get within 3° of yesterday's reading, or within 4° of the 1868 value, the nearest approach to it being Wednesday, 7th inst., and on the 4th of the month in 1880, when it reached 87°. In only seven of the past fifty-eight Septembers has the thermometer in London even touched 85°, and in no fewer than forty-three years out of the fifty-eight it failed to reach 80°. Over England readings of 90° and upwards in the shade are fortunately rare. Going back to the year 1871, when the Meteorological Office record for London commenced, we can find only eighteen days with such a temperature, two of these occurring in June, nine in July, and seven in August. The longest spell of extreme heat occurred in July, 1876, when maximum readings ranging between 90° and 92° were recorded on four consecutive days. In August, 1893, however, there were three consecutive days with a maximum ranging between 90° and 93°, and on the middle night of the three the thermometer never fell below 72°, this being apparently the warmest night on record. The highest day temperature recorded in London since 1871 was on the 13th August, 1876, when the thermometer in the shade rose to 96°. The only other reading touching 95° was on the 15th July, 1881.

— **RED CARNATIONS.**—Happening to mention the variety Penge to Mr. Chas. Blick a few weeks ago in connection with a small but select collection of Carnations, he stated that in a general way the reds have hardly been so brilliant as usual this year. They have, so to say, lacked "tone." The sort named has, however, displayed remarkable clearness, vividness, and firmness of tint. It is perhaps surpassed in intrinsic excellence by the latest of Mr. Martin Smith's productions; nevertheless it is a fine, bold flower, and would please and satisfy even a connoisseur.—W.

— **AUGUST WEATHER AT HODSOCK PRIORY, WORKSOP.**—Mean temperature of the month, 61·5°. Maximum in the screen, 82·8° on the 12th; minimum in the screen, 43·2° on the 9th; minimum on the grass, 33·8° on the 24th. Sunshine, 137 hours, or 30 per cent. of the possible duration. Difference from average—7. Rainfall, 3·29 inches; difference from average + 0·86. Rain fell on sixteen days. Maximum fall, 1·06 on the 3rd. Rainfall from January 1st, 13·47 inches. Difference from average, 2·90. A warm month, especially at night; some rather heavy falls of rain. Wasps and flies very numerous and troublesome.—J. MALLENDER.

— **PEACH NOBLESSE.**—It is hard to say why, but undoubtedly in some quarters this fine Peach has obtained a bad character for its bearing qualities. I have seen a tree trained on the back wall of a house bear freely year after year, with other trees trained from front to back, only about 4 feet apart. As a standard in pots it has fruited well with me, and also on walls outside. When ripe the fruits are of first-class quality, well meriting being placed amongst the best flavoured of Peaches. One might say the same of Alexandra Noblesse, but the Peach which appeals to me above others, when well grown and ripened, is Walburton Admirable. This will perhaps interest "G.," page 187.—J. SHALFORD.

— **AUGUST WEATHER AT BELVOIR.**—August was changeable throughout, with thunderstorms on four days, and the heaviest fall of rain in one day this year. The mean temperature exceeded that of July, but the sunshine was much less. The wind was in a westerly direction twenty days. The total rainfall was 2·67 inches, which fell on twelve days, and is 0·01 inch above the average for the month. The greatest daily fall was 0·96 inch on the 6th. Barometer (corrected and reduced), highest reading 30·272 inches on the 31st at 9 P.M.; lowest 29·641 inches on the 30th at 9 P.M. Thermometers, highest in the shade 82° on the 12th; lowest 43° on the 8th. Mean of daily maxima, 69·45°; mean of daily minima, 52·19°. Mean temperature of the month 60·82°. Lowest on the grass, 39° on the 8th; highest in the sun, 135° on the 1st and 14th. Mean temperature of the earth at 3 feet, 59·54°. Total sunshine 184 hours 5 min. There was one sunless day.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham.*

— **EXHIBITION ONIONS.**—The Onion, as the hero of news paragraphs, seems to have entirely displaced the once highly favoured big Gooseberry. If the bulb lacks the pleasant taste of the latter, it far more than compensates by its appearance and bulk. The big Gooseberry, even of the finest, is, after all, but an insignificant thing when compared with a big Onion. The latter seems to be even eclipsing the Potato as an exhibition quantity, for it greatly excels the biggest tubers in weight, and very much so in beauty; indeed the bulbs of the finest samples are singularly handsome, perfect in form, and even. At a recent great Onion show at Norwich for Daniels' Golden Rocca only, no less than 761 competitors staged three bulbs each, a great total of 2283, probably the largest show of the Onion ever seen. At an exhibition of that fine variety, Cranston's Excelsior, at Hereford, eighty-five exhibitors sent five bulbs each, a total of 425. If the perfume emanating from the bulbs were equal to the bulk the bouquet must have been of high olfactory excellence. It is very interesting to find that the champion grower of Onions for the past year or two, Mr. J. Bowerman of Hackwood Park Gardens, Basingstoke, should have been placed first in both these gigantic competitions. At Norwich his three bulbs weighed 7 lbs., or an average of 2 lbs. 5½ ozs. each, whilst his five bulbs at Hereford weighed 13 lbs. 8 ozs., or an average of 2 lbs. 11 ozs. In the first case the prizes went to the heaviest. In the Hereford competition beauty and appearance seems to have governed the judging, as the respective awards show the first fine lots to have weighed 13 lbs. 8 ozs., 13 lbs. 8 ozs., 13 lbs. 14 ozs., 13 lbs. 6 ozs., and 12 lbs. 14 ozs., hence the third prize five were the heaviest. The second prize went to Mr. Stark of Exeter, third to Mr. C. Beckett of Elstree, fourth to Mr. Kieller, Basingstoke, and the fifth to Mr. Pitt, Abergavenny. It is not said whether the bulbs are kept or returned, but if kept, the firms offering the prizes must find a very valuable collection of seed-producing bulbs for their prizes.—A. D.

— **THE AMATEUR WORLD OF HORTICULTURE.**—A very interesting copy of this publication, which is the organ of the Amateur Gardeners' Association, has just reached us. It comprises a record of the doings of the Association during the months of April, May, and June, with editorial and several other notes. Most valuable, however, are the papers of Daffodils by Mr. J. W. Barr; Roses by Mr. Frank Cant, and the Tuberous-rooted Begonia by Mr. H. J. Jones. Each of these gentlemen is an expert with the different flowers, and the essays therefore contain much practical information that must be of assistance in the culture of the plants.

— **MEDICAGO ECHINUS.**—When I wrote of this for the article which appeared in the *Journal* of September 1st (page 160) the plant was in bloom, but had not fruited. Mr. Black of Carton kindly drew my attention to the peculiar and pretty fruit. Unless looked at closely this is not seen, as its weight bears the branches of the plant down to the ground. It looks like green Strawberries at the first glance. The fruit is composed of a number of spines on a fleshy belt, in which are contained the seeds. Taken hold of by the ends this belt may be drawn out in a spiral form, disclosing the seeds. For its fruit alone *Medicago echinus* is well worth growing.—S. ARNOTT.

— **PRIMULA OBCONICA.**—Whatever may be the objections entertained by some persons to this occasionally irritating Primrose, they are not shared in by Mr. Townshend at Sandhurst Lodge, for he has apparently hundreds of fine young plants in 5-inch and 6-inch pots, and by the aid of these he hopes to have, as hitherto, a great abundance of beautiful flowers. Judging by what I saw of the size of bloom and colour, he has one of the finest and deepest coloured strains in cultivation. I have urged him to let the Floral Committee at the Drill Hall have an opportunity to see a good basketful of his best plants later on, and I hope he will do so. One of his young men, Mr. Townshend remarked, used to suffer a little irritation when handling the plants, but no one else.—A.

— **GLASGOW AND WEST OF SCOTLAND HORTICULTURAL SOCIETY.**—The Society must be congratulated on the excellence of the show. The weather was grand, making one wish the show was held under canvas instead of in the magnificent hall. I think it would be wise of this Society to hold its show in one of the numerous parks or gardens which the city has at its command. The Botanic would be a grand place, under the combined management of the popular Curator, Mr. Dewar, and the practical Secretary, Mr. John Coates, as success would be certain, and plant competition keen. There were splendid examples of cultivation in the numerous classes. Fruit and vegetables were excellent all round, and some of the best Grapes we have seen this season were here. If the miscellaneous exhibits were removed the show would fall short of interest, as varied displays were numerous, and well worthy the reputation of the trade.—A. O.

— **BRITONS FOR RUSSIA.**—The announcement of the forthcoming horticultural exhibition at St. Petersburg will perhaps have suggested a more peaceful visit to the Russian capital than seemed probable from the thunders and lightnings of the daily press over the Chinese question recently. Russia and Great Britain are not going to fight—they are going to fraternise. Instead of the Sirdar or "Bobs" as the national representative, Mr. J. H. Veitch has been chosen. Nothing could be better. But there is one difference to face. If General Kitchener had led a force into Russia her Majesty's Government would have paid the expenses. If General Veitch conducts a charge of horticultural lancers her Majesty's Government will allow them to defray their own. It is, however, a far cry to St. Petersburg, and many who would like to make the journey will be deterred by the heavy cost. Could not the Commissioner organise a party and obtain a substantial concession?—TRAVELLER.

— **LOUGHBOROUGH GARDENERS' ASSOCIATION.**—On the 6th inst. this Association held its annual Show of Dahlias, Gladioli, with plants and other flowers, and an excellent exhibition was got together. At the annual dinner that was held later in the day under the presidency of Alderman W. C. Burder, the painstaking Hon. Secretary was presented with an illuminated address and a purse with something in it. The address, which was framed in oak, was as follows:—"Mr. D. Roberts. Dear Sir,—On behalf of the friends and associates in horticultural pursuits, we beg your acceptance of this address and accompanying purse of gold as a token of our esteem and regard for you personally, and in recognition of the valuable service you have so willingly rendered to this and kindred Societies. With best wishes, we are, yours sincerely, for the Loughborough and District Gardeners' Mutual Improvement Association (signed), Alfred Hamshire, Chairman; John Smith, Vice-Chairman; W. English, Treasurer. September. 1898. The recipient of this graceful mark of esteem suitably responded.

SOLANUM WENDLANDI.

ORNAMENTAL and useful plants of widely diversified characteristics are found in the genus *Solanum*, and in one form or another they are to be found in almost every garden. We would now draw attention to *S. Wendlandi*, of which is given an illustration (fig. 37) as being excellent for stove culture. It is a remarkably floriferous climbing shrub that may be worthily added to any collection where space is at disposal. The flowers are rich purplish crimson in colour, and an idea of their attractiveness may be taken from the woodcut. A stove temperature is essential to success, as are a moist atmosphere and a well-drained soil, whether grown in large pots or narrow borders. Provide a substantial compost at the outset, and when the plants are in active growth afford supplies of good-liquid manure in addition to the pure water. Like many other stove plants it is liable to the attacks of insect pests, and for their prevention the syringe must be frequently requisitioned. Treat the plants generously, and they will give a splendid reward in the abundance of flowers produced during the late summer months. *S. Wendlandi* usually commences to flower in April, and continues to bloom profusely for about four months.

VICTORIAN GARDENING.

AMONG other interesting articles in the July issue of the "Quarterly Review" (No. 357) appears one under the heading of "Curtis's Botanical Magazine," which should be of interest to botanists and horticulturists. We are reminded that the magazine was commenced by William Curtis in 1787, and is now conducted by Sir Joseph Hooker. It consists of 123 volumes, and the able reviewer thinks it may not be uninteresting to consider some of the changes that have passed over gardening during the period which it covers. We take a few extracts, because they are interesting in themselves, and also indicate the character of the article, though by no means the whole of its features can be represented here.

The gardens of England at the close of the year 1799 offered a complete contrast to those on which that century had dawned, and the transformations through which they have passed in the last hundred years have been no less numerous or varied. . . . Many British gardens have been completely transformed, and now present features totally distinct from any which characterised those of the eighteenth century. This alteration of ideals is only one of the many changes which have helped to develop the modern garden. In all the numerous departments of horticulture, which touches botany on the one hand and agriculture on the other, and includes within its limits even chemistry and architecture, vast progress has been made. . . . During the first half of this century botanists were still thinking out theories to account for various phenomena in plant life; at the present day, on the other hand, the results of their labours are taught even in elementary text-books. It is impossible to exaggerate the power which these scientific truths have placed in the hands of practical gardeners.

Garden design has passed through numerous phases during the present century. Architects and landscape gardeners can be held accountable for many changes; but in spite of all their efforts to regulate the form of a garden, the plants themselves have, as it were, the power to control and direct design in a greater measure than is usually supposed. . . . Early Victorian gardens are nearly all in the Italian style, with terraces, balustrades, fountains, and statues. Numbers of large gardens were planned in this fashion between the years 1840 and 1860 by Paxton, Nesfield, and Barry, three of the most eminent garden architects of the period, and many of them are extremely beautiful. To keep such Italian gardens aglow with gaudy flowers was the first object of practical gardeners, and just at this time many half-hardy flowers were being introduced which were peculiarly suited to their purpose. The natural sequence of events led to the banishment of many less showy hardy plants to make room for their more sensitive rivals, and thus the "bedding-out" system became firmly rooted. . . . This rage for Geraniums, Calceolarias, and other brilliantly coloured half-hardy plants pervaded almost every garden in the kingdom, till numbers of the old-fashioned hardy plants fell out of sight. The restoration of many of these forgotten plants, and the assignment to hardy herbaceous flowers of a foremost place again in gardens, have been among the most marked developments of modern gardening.

This century has witnessed the importation of countless plants, now so familiar in gardens that it is difficult to realise that many of the most popular among them are of very recent introduction. Since the very commencement of the century collectors have been busy in all parts of the world. Much has been done by private enterprise. Many able men have been sent on special expeditions by the Royal Horticultural Society, and a great debt of gratitude is also owed to the large firms of nurserymen who have sent their collectors to every quarter of the world. Between 1800 and 1850 perhaps the largest number of new plants came from India. Many were sent home by William Roxburgh, some of the first Orchids, including *Vandas* and *Dendrobiums*, being among the number. Quantities were collected by Dr. Wallich and other botanists,

and from 1848 to 1850 Sir Joseph Hooker was making adventurous journeys in unexplored regions of the Himalayas, in Sikkim, Thibet, and Nepaul, and finding wondrous *Rhododendrons*, tropical plants from the valleys and plains, and hardy ones from regions near the eternal snows. . . . Some few plants were imported from China before 1820, *Paeonies*, *Chrysanthemums*, *Wistaria*, and Japan Quince among the number; but it was not until after the Chinese war of 1842 that they came in considerable numbers. The energetic and adventurous collector, Robert Fortune, penetrated into the country after the conclusion of peace, and was rewarded by the discovery of innumerable floral treasures. . . . Quite lately a large number of plants has been found in Western China which are likely to prove hardy in the open air in England. . . . In Africa the collection of plants has followed the advance of civilisation. New varieties of *Gladiolus*, *Ixia*, and *Arum* (*Richardia*) have been added to the older ones of late years, while the species of *Friesia*, so popular among greenhouse spring flowers, was sent from South Africa as recently as 1875. About the same time the brilliant *Montbretia Pottsi*, from the same locality, first became known in the hardy flower garden. The first to collect plants in British Central Africa was Sir John Kirk, while travelling with Livingstone between 1858 and 1863, when he went up the Shire and discovered Lake Nyassa.

It cannot fail to strike the casual observer that it is wonderful how plentiful many of these plants of recent introduction have become, and truly the numbers in which many are imported are astonishing. . . . Large importations of plants from Japan are of almost daily occurrence. The principal sale of these takes place at the mart of Messrs. Protheroe and Morris, who dispose of countless thousands of plants. Such sales as the following, of Lilies from Japan, are of constant recurrence:—"March 16th, 1898.—11,080 *Lilium auratum*, 14,020 *L. speciosum album*, 1440 *L. tigrinum splendens*, and other Lilies, the contents of 395 cases just received from Japan." Large quantities of *Lilium longiflorum* var. *Harrisi* are grown in Bermuda, hence the Lily has become popularly known as "the Bermuda Lily," although a native of Japan—bulbs to the value of £20,000 being supplied from there annually to the United States and Europe. Within the last few years efforts have been made to cultivate this Lily in Natal for export to Europe. Four thousand from there were sold in London in April, 1897, for about 15s. per hundred; the bulbs have proved good, but flowered nearly three months later than those from Bermuda. The most marvellous importations of plants have been those of Orchids. Species which were extremely rare twenty years ago are now quite common, and the prices given to-day in many cases are a smaller number of shillings than formerly they were pounds.

Almost every family of cultivated plants is undergoing improvement in the florists' hands. . . . The florists' flowers of to-day are many of them so widely different from the parent plant as to be scarcely recognisable at first sight. The large *Calceolarias* are a gradual development from the first hybrid which was produced, by Penny, at Milford Nursery in 1830, from *Calceolaria arachnoides* and *purpurea*. The wonderful tuberous *Begonias*, double and single, in every shade of red, pink, yellow, and white, which now form such a brilliant display in greenhouse and summer garden, could not have been imagined but a few years ago. . . . The results of the artificial hybridisation of Orchids have been eminently satisfactory, and every year new ones appear, in spite of the length of time it takes to produce specimens. Some fresh combination, productive of a new variety of form or colour, is frequently the greatest attraction at the horticultural shows. These exhibitions are such conspicuous institutions nowadays, and florists depend on them to such a great extent to see what other gardeners have been accomplishing, that it is difficult to realise that they are of comparatively recent origin.

The earliest record of anything at all approaching shows were the "florists' feasts," held at Norwich in the seventeenth century, and mentioned by the naturalist Ray about 1660 as then existing. It was customary at these feasts to make some award for the best flower of the year. Other forerunners of shows were the meetings held early in the following century by "A Society of Gardeners." These were instituted by twenty of the leading gardeners and nurserymen in and near London, and they met once a month for some six years, usually at Newhall's coffee house in Chelsea. Flowers were brought for inspection, and a classified list was prepared, a portion of which, dealing with flowering shrubs, was published with fine illustrations by the Society in 1730. Some of the earliest shows were those held for exhibiting Auriculas, Pinks, and Carnations at the beginning of this century. The Florist Society, by which this work was started, met together about three times a year, and combined the judging of flowers and awarding of prizes with a sociable dinner.

In the London parks the spring flowers are a great charm. The grass is spangled with many shades of Crocuses, and the brilliant blue carpets of *Chionodoxas* are a joy to all beholders. These bright star-like flowers, so striking as almost to eclipse the *Scilla sibirica*, are of very recent introduction. They come from the high lands of Asia Minor. Mr. Edward Whittall, who has been the fortunate discoverer of some of the finest varieties, describes the spot on which he first saw them, on Boz Dag in the Imolus mountains, and truly they deserve their popular name, the "Glory of the Snow." For a mountain stream of melting snow had forced a passage through the ice, leaving a natural arch of ice as a bridge over the water, and the whole of the cave thus formed, where the snow had disappeared, was a dazzling blue mass of *Chionodoxas*.

Kew Gardens are now a national institution of great importance, but at the beginning of the Queen's reign they held a very different position. The gardens were originally begun about 1760, and the pagoda and temples and buildings were designed by Sir William Chambers. Under

* John Murray, Albemarle Street.

the direction of the two Aitons the gardens prospered, and the elder published a catalogue of plants in 1789, which was amplified by the younger in 1810. It was only in 1841 that these royal gardens were first thrown open to the public, and during that year 9174 people made use of the privilege. From that time the number of visitors has steadily increased. In 1848, when the great Palm house was built, there were 91,708. In 1851, the year of the Great Exhibition, the numbers reached 327,900; in 1862, the next Exhibition and the year the winter garden was opened, there were 550,132; and so on in ever-increasing numbers, until in 1882 over a million visitors were recorded, and last year there were as many as 1,239,683 who visited the gardens. This remarkable growth in public interest is a striking proof of the general appreciation of all that has been done under the able directorship of Sir William Hooker, assisted by Bentham, Henslow, and others, then under Sir Joseph Hooker, and at the present time under Mr. Thiselton-Dyer. The gardens, which in 1841 consisted of about 75 acres, have gradually been

more is expected of him. He has to be fairly well educated, to know something of botany, to understand the structure and physical life of plants, and of the families and genera to which they belong, if he is to succeed in his profession. Men who are trained in big nurseries come up to this high standard, and every year, in gardening as well as in other branches of education, more knowledge is expected. Those who present themselves to the Royal Horticultural Society for examination find a very stiff and searching paper to answer before them, yet numbers pass with credit. The candidate who passes first wins a scholarship, offered by the Worshipful Company of Gardeners, which enables him to study for a year at the Horticultural Society's Gardens, and a second year may be spent at Kew or at some garden abroad.

Women also enter for these examinations, and one appeared second on the list last year. This pursuit of gardening by women is a new idea, although not a surprising one, now that so many professions and occupations are open to them which had formerly closed doors. A women's



FIG. 37.—*SOLANUM WENDLANDI*.

increased to over 400 acres, and there plants from all climes can find a home.

The beautifying of the parks and public gardens, not only in London, but in all great towns, has immensely stimulated the taste for gardening. The love of flowers has always been characteristic of English people. Travellers two centuries ago were struck by the pots of growing plants and the cut flowers to be seen in the majority of houses; and the little dingy window with its few *Geraniums* struggling to the light, and the gay cottage gardens, prove how general this love of flowers still remains. In all parts of the kingdom this innate affection for gardening has borne fruit by an increase in the knowledge of horticulture. The village shows, which have so much encouraged this progress, are a proof of the improvement effected, and the variety and size of the vegetables and fruits and flowers now exhibited in remote districts would astonish the most advanced gardener of the Georgian era. The professional gardener to-day is very different from his predecessor half a century ago. Much

branch was started in 1891 at the Swanley Horticultural College. At first it was represented by one pupil, but by 1896 there were thirty-nine students, and the numbers continue to increase. Many of these never intend to be anything but amateurs, but several have already passed out of the College to take head gardeners' places. Students from Swanley have also been allowed to continue their education at Kew, but the somewhat arbitrary restrictions, which oblige women to wear so-called "rational" knickerbocker dress, have deterred many from making use of this advantage. The herbaceous borders at Kew, however, were last year tended entirely by women, and Mr. Thiselton-Dyer was satisfied that they had never been better cared for. Although some of the work of a gardener is hard, it is an art in which neatness and dexterity play so important a part, that it is a calling eminently suited to women.

Certainly the advantages enjoyed by a modern gardener are very great. He can get instruction from technical education lectures, from cheap yet accurate books; but perhaps the largest amount of knowledge

is obtained from the periodical garden literature. Papers relating to gardening are now very numerous, and, in view of their reduced prices, the illustrations and information they contain compare favourably with those of earlier horticultural journals. Their circulation is in consequence very much wider than that of older publications, which appealed only to scientific readers.

Horticulture has been making steady progress in every direction, and the nineteenth century is closing on a system of gardening more perfect than has ever been seen before. With all the means of advancing, and all the advantages now in their possession, gardeners must not be content to rest on their laurels. There is still as much to be done in the future as there has been in the past. Knowledge is the sure road to further knowledge. Who can prophesy what there is still hidden in Nature reserved for some careful searcher to discover, or who can tell what possibilities are within reach of the hard-working, deep-thinking, and far-sighted modern gardener?

A HOLIDAY TOUR.

(Concluded from page 184.)

FROM Swanley to London, and thence to Chelmsford early in the evening, where I had the pleasure of inspecting the chemical and botanical laboratories connected with the Essex County Council, and the 3 acres of land secured for teaching purposes, brought a long but thoroughly enjoyable day to a close. I much regretted the absence of the members of the teaching staff, who had gone on their holidays, but the Curator took the greatest interest in my visit, and showed me the secrets of their success, which latter is known to all interested in technical education. The report upon the Essex field experiments for 1896-7 is elaborate, and cannot fail to be of great practical utility to the farmers in the county.

The Journal of the Essex Technical Laboratories, which is a quarterly publication, edited by the staff biologist, Mr. D. Houston, F.L.S., is invaluable to students and others. The articles are original, and have a special bearing on the work done in the county. The success of the horticultural students at the recent Royal Horticultural Society's examination is sufficient evidence of a thoroughly scientific and practical training, which will be even more complete when the experimental grounds are fully laid out and in working order. The horticultural lectures are copiously illustrated with lantern slides, and must eventually bear good fruit.

Early on the following morning I returned to London to visit the fortnightly exhibition of the R.H.S. It is so rarely one living at a great distance, as I do, has the pleasure of visiting these exhibitions and meetings that an opportunity such as I had on this occasion could not be missed. I am aware that the above meeting has been fully reported in the Journal, but I should like to mention at least one of the many exhibits staged, and I feel that it is greatly to be regretted that the country Fellows of the R.H.S. cannot have more opportunities of visiting these exhibitions, which I am sure they would appreciate and benefit from. The exhibit in question was the collection of fruit staged by Messrs. J. Veitch & Sons, Ltd., which was really a miniature exhibition in itself and of a standard of excellence for all fruit growers to aim at. The hundred and six varieties of Gooseberries interested me very much, as I happen to have been "cradled" in a Gooseberry district and where Gooseberry shows are held in profusion during the season.

RIDGMONT.

After carefully inspecting the other exhibits and making a few notes I turned towards Euston *en route* for the Duke of Bedford's Experimental Farm at Ridgmont. On reaching Ridgmont I met Mr. Lewis Castle, the genial manager of this, to my mind, ideal experimental fruit farm. Here are 20 acres of land devoted by the Duke of Bedford, at his sole expense, to experimental purposes for the benefit, not only of the people in the immediate vicinity of Ridgmont, or in the county of Bedfordshire, but for the people of the kingdom.

It may interest your readers to know what experiments were most conspicuous to me, and of the greatest practical benefit to fruit growers. In the root treatment of Apple trees I observed that where root-pruning was annually done the trees had no crops, and were dwarf and puny compared with those trees which were root-pruned as required. Then, again, there was a marked contrast in the vigour and fruitfulness of trees which were planted and treated normally compared to the trees surrounded by grass, and where the mowings were left on the ground, or even where the weeds were allowed to grow. The stunted appearance of the trees proved that the growth of grass or weeds along with fruit trees is against the cultivation of high-class fruits.

Trees which were planted carelessly, grossly neglected, and not manured showed a marked difference from those trees which had been so planted, but after the first year had been well treated, showing the results of good cultivation with badly planted and neglected trees.

The results of the experiments in Strawberry culture up to the present with eighty-six varieties, show that the two-year-old plants give a much larger yield than those of one year, though the latter produce larger individual berries than when the plants get older. The longest period of fruit-gathering is eighty days from the variety Red Alpine, whilst the earliest fruits were gathered on June 3rd from Laxton's No. 1, and the latest from Red Alpine on August 31st. From the report we read that the fruiting of the one-year-old plants was 1.66 day earlier than the two-year-old plants, though the latter continued in bearing 3.38 days longer on the average, and that the watering and feeding with various

liquid manures after the fruit was set had no apparent effect as regards an increase of crop, but rather that the ripening process was retarded. The results of the innumerable other experiments which are in vogue will be awaited with great interest by the people in general. My thanks are due to Mr. Castle for his kindness on the occasion of my enjoyable visit.

DROITWICH.

Leaving Bedford station early in the evening I made for Droitwich to visit the Worcestershire County Council Gardens, which are under the management of Mr. James Udale, the chief horticultural instructor for the county, and the author of an excellent manual for gardeners termed "Gardening for All." This ground is about 2 acres in extent, sloping to and facing practically due north. The upper soil is a dark sandy loam, with a subsoil of gravelly marl, and is therefore generally warm and dry and can be worked at almost any time. The most serious drawback is that in a dry season the vegetable crops in particular are liable to suffer by the want of moisture, but the difficulty is greatly minimised by deep and thorough cultivation.

Apples, Pears, and Plums are grown in quantity, and are subject to various methods of training and pruning. With Currants I observed a marked difference in the health, vigour, and fruitfulness of the red varieties, which had been properly pruned and those which had been left to grow at Nature's own sweet will. Raspberries are largely grown on the east and west borders adjoining the boundary fence. The varieties in order of merit as grown in these gardens are Superlative, Prince of Wales, Semper Fidelis, Surprise d'Automne, Red Perpetual, Worcestershire Prolific, White Globe, Fastolf, Carter's Prolific, and Baumforth's Seedling. The two latter are practically a failure in this garden. The importance of cutting back the single canes is fully demonstrated; the stools not only become thoroughly established but strong, healthy canes are developed, with every prospect of a good crop of fruit the following year.

In the Strawberry trials Royal Sovereign commenced to ripen on June 12th; Scarlet Queen, June 14th; Dr. Hogg and Garibaldi, June 15th; Sensation and Sir Joseph Paxton, June 19th; McMahon, Captain, and Monarch, June 22nd; and The Countess, June 26th. For cropping qualities McMahon led the way, followed by Sensation, Monarch, The Countess, Royal Sovereign, Garibaldi, Scarlet Queen, Sir Joseph Paxton, Dr. Hogg, and Captain; whilst for flavour Dr. Hogg and McMahon were very good, with Captain, Garibaldi, Scarlet Queen, Sensation, Monarch, Sir Joseph Paxton, and Royal Sovereign good, The Countess being only moderate.

There were two fruit trees which had been syringed for the purpose of destroying insects and mildew respectively, the former with carbolic soap and the latter with sulphide of potassium; the solution in each case being too strong had resulted not only in destroying the foliage, but in entirely checking the growth of the plants and arresting the swelling of the fruit. These were object lessons of great practical utility to all classes of gardeners, and in which personally I was much interested. The timely summer pruning of the Apple trees showed a marked effect, resulting in clean healthy wood, large leathery-like leaves of a deep green colour, the development of fruit spurs, and the production of high-class fruits.

A few stocks of Potatoes were lifted at the time of my visit, and gave evidence of fairly good yields considering the season. The following is the order in which we adjudged them:—Reliance, Supreme, Ninetyfold, and Windsor Castle. In the vegetable department, which is managed on the best principles, I wish to refer only to Carrots and Onions, the former on account of being severely attacked with wireworm, and the latter with the Onion maggot. In each case the most effectual remedy was a dressing of homeo rapemeal manure. As to the Carrots, Mr. Udale says in his 1897 report that "The wireworm attacked this crop with great virulence, and at one time it seemed as though it would be entirely destroyed. A dressing of mustard dross was applied to certain rows, but it was quite useless. Baits of broken rape cake were set about among the rows, but the wireworms scorned the supposed toothsome and seductive morsels. Meanwhile the plants were decimated, and the crop was in a rapid state of 'consumption.'" Through the recommendation of Messrs. J. P. Harvey & Co. the homeo rapemeal manure was given a trial. The application of 1 cwt. of the manure to thirty-nine rows, each 63 feet long, was made on the 26th June, "allowing it to fall over the leaves of the Carrots and on the ground until the latter was just covered with the manure." Mr. Udale goes on to say, "From that day the crop commenced to prosper, and in due time it became quite as good as an ordinary crop of Carrots is expected to be." At the time of my visit I saw the wonderful effects of this manure on a crop of Carrots that had been similarly attacked with the wireworm. As regards the Onion maggot Mr. Udale says, "Baits of the rapemeal manure were set, and as many as thirty-two Onion maggots were found in one bait at one time."

In addition to lecturing and the management of this garden, Mr. Udale does a good work in the inspection of the allotments in the county, having at the present over ninety centres, which are visited and classified according to their merits, the results being printed and circulated throughout the county. This, my first visit to Droitwich, I greatly enjoyed, and felt some little reluctance in taking leave of my host, who accompanied me to the station, and who had entertained me most admirably, and given me the benefit of his long and wide experience, which I shall ever appreciate.

CHELTEMHAM AND WARMINSTER.

From Droitwich I hastened to Cheltenham, where I spent an hour in the nurseries of that well-known exhibitor and horticulturist, Mr. James

Cypher. Here are over fifty houses, containing a large assortment of plants in the best condition. The huge plants of Anthuriums, Ixoras, and Bougainvilleas were a treat to behold, and left no surprise at the success of this firm at the largest and best exhibitions in the country. Of the many Orchids in flower I particularly noted *Cattleya aurea*, *gigas*, *Gaskelliana*, *maxima*, *Mendeli*, and *superba*; *Cypripediums* *Baconis*, *Crossianum*, *Curtisi*, *Lawrenceanum*, and *T. B. Haywood*; *Dendrobium filiforme* and *formosum giganteum*; *Laelia crispa*; *Masdevallia peristeria*, *M. Veitchi grandiflora*; *Odontoglossums* *Alexandrae*, *crispum*, and *hastilabium*; *Oncidium concolor* and *Krameri*; with many others.

On the route from here to Bristol, where I stayed the night, I noticed many extensive allotment gardens, most of them being well cropped, and with a prospect of satisfactory results, considering the prolonged drought which this year has undoubtedly been general throughout the country.

To conclude my ten days' tour I left Bristol for Warminster via Bath to call upon Mr. E. H. Smith, who has for several seasons conducted, on behalf of the Wiltshire County Council, some invaluable experiments in respect to Potato and Onion cultivation. On my arrival at Warminster I gathered that Mr. Smith had secured a situation in Somersetshire, and that there were no county experiments being conducted this year. This information I regretted very much, as I was anticipating a good time.

I then resumed my journey to the Garden Isle via Salisbury, Eastleigh, and Southampton, feeling amply satisfied with an outing which had been most interesting and instructive.—S. HEATON, *Isle of Wight*.

LILIES IN AUGUST.

IT may seem presumptuous in one who has but a small garden, and grows only one or two clumps of each species or variety of Lilies, to write about them, while there are others who grow them by hundreds, and to whom the loss of a few bulbs is of no account; but, on the other hand, one may urge that perhaps for that very reason he may have something to say which is likely to be useful. I have known it to be so with other plants; I have known, for instance, the Rose grower, who did wonders with his 300 or 400 plants, when tempted to launch out more extensively, never to have equalled his former standard. I think it is not difficult to say why this is the case; he is better enabled to study the peculiar wants of his few plants, and to apply the treatment which he thinks they require—and Lilies are certainly amenable, at least many of them, to such special care. Some are apparently hopelessly beyond any care, do what we will, to satisfy us. Such kinds as *Humboldti* from N.W. America, and *Kræmeri* from Japan, I can never do anything with, and I see, from the notices which are continually appearing in the gardening papers, that others find them as impossible as I do myself.

Of course I am aware that there may be some situations and soils in which even the most difficult plants succeed, but it never does to reason from particulars to universal (at least, so logicians tell us), and these exceptions only prove the rule. There is one great advantage in growing this beautiful tribe of flowers, that you have plants of them in bloom for several months, and I do not think that this is the case with any other family that I know; and it must be borne in mind that we are not dependent for this continuity of flower on seminal varieties. The tribe is widely distributed, and all parts of the world have contributed their share for the adornment of our gardens. In the month of August there are few Roses to gladden our eyes; I am speaking, of course, of the amateurs' and not of the professionals' garden, but during that month there are many beautiful Lilies to be had.

I think in the front place I must place that most valuable acquisition, *Lilium Henryi* (fig. 38), which we have obtained in the last few years from N. China. I have but one bulb of it, but it has done so well, and is now so beautiful, that I can safely say that no garden ought to be without it. My bulb has thrown up a stem nearly 7 feet in height, with about twenty flower buds; offsets have also been formed, which I have not detached from the parent bulb, and one of these has now four or five blooms on it. The colour is an orange-yellow spotted with crimson, and it has well been described as an orange *speciosum*. It seems to have taken in North China a position similar to that of *speciosum* in Japan, and I do not believe that it is found in the latter country, to which *speciosum* seems to be confined. When the bulb becomes commoner, which it is sure to be before long, clumps of it will be very beautiful for autumnal bloom in our gardens.

LILIAM AURATUM PLATYPHYLLUM.

I suppose the experience of most persons with regard to *Lilium auratum* has been that it is a very unmanageable Lily. Since its first introduction by Messrs. James Veitch & Sons millions of it have been imported from Japan; it has found its way to all sorts of gardens, and yet it is very rarely we see in any garden a clump of either the type or its many varieties more than a year or two old. The difficulty is now increased, owing to the existence of disease in the Lily plantations of Japan, and if anyone orders bulbs of them they are generally told they must wait until the importation arrives. This has been the case for years—long before we had any notification of

the disease. Most growers, however, come to regard them simply as annuals; they buy their bulbs in the autumn or early winter, as, whether grown in pots or in the open, they do not calculate upon seeing them again after the first year.

The introduction of the variety *platyphyllum*, which comes to us from a different locality, seems to promise more hopefully. The foliage is more robust than that of the type, as its specific name implies, and the flower itself has stouter and broader petals than the other varieties, but I am beginning to be doubtful whether, after all, it may not share the evil propensities of the ordinary variety. I hope not, as it is a very beautiful and striking Lily when in flower.

In illustration of the eccentricities of *Lilium auratum*, I may mention that there is a row of four small cottages in a part of my parish; these have to each of them a small piece of front garden about the size of a tablecloth, and they are separated from one another by a wooden fence. One of these is inhabited by the gardener of a

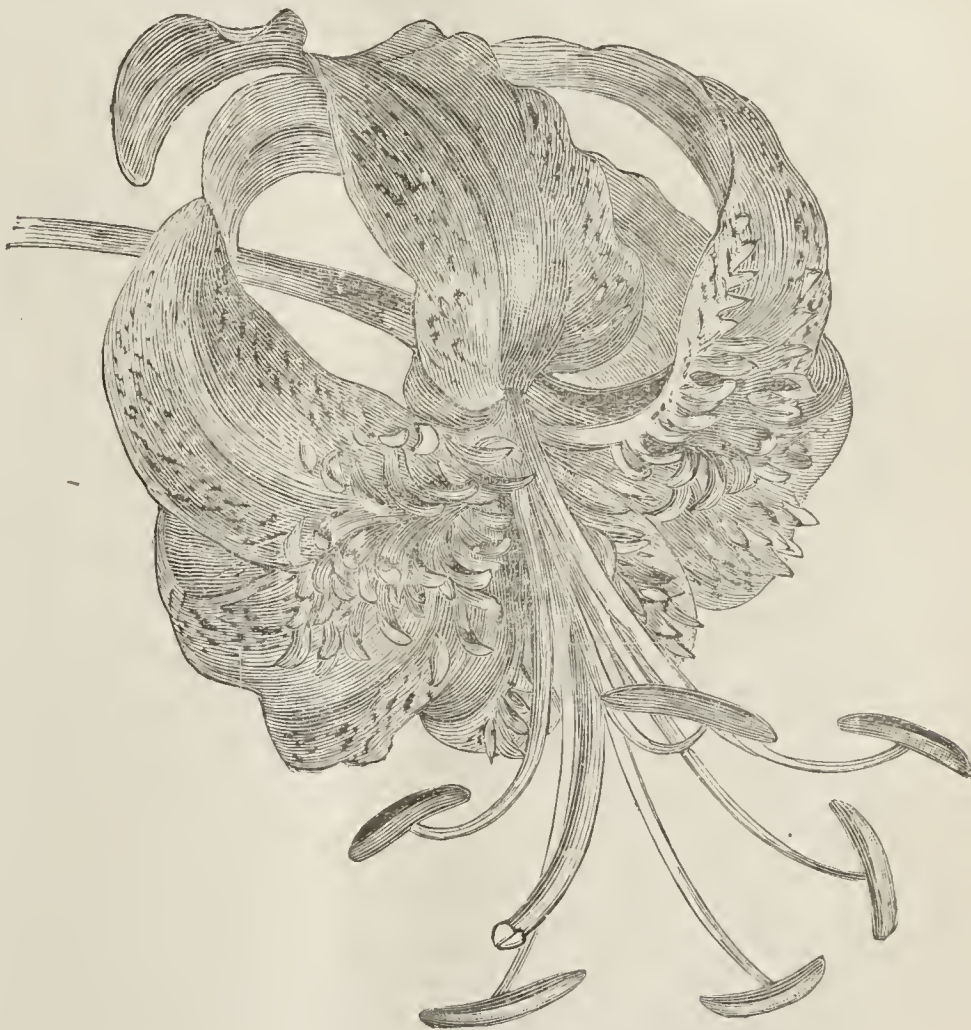


FIG. 38.—LILIAM HENRYI.

neighbouring house. Some eight years ago he planted a bulb close to the fence, and also to the pathway leading up to the cottage; there is very little soil about it, and the situation is excessively hot. This has gone on flourishing all these years—sometimes coming up one side of the fence, sometimes the other. This year it has produced several stems, and a considerable number of flowers. Why it should have done so well it is very difficult to understand. To imitate its surroundings would be to court failure. I record it simply to show how strange the behaviour of some plants is.

LILIAM SPECIOSUM AND ITS VARIETIES.

As the month of August draws to its close these beautiful Lilies are beginning to display their charms. In my opinion it even is a more beautiful and desirable Lily than the preceding one. Its form is exquisite, the colours of the flowers are much softer than those of *auratum*, while the perfume is incomparably superior; there is a delicacy about it which makes it agreeable in a greenhouse or sitting room, while even one flower of *auratum* is too overpowering. There is a number of varieties, and there is considerable confusion about their names. The fact is that numbers are raised from seed and are assigned to *rubrum* and *roseum* indiscriminately, so that you are never sure what you may get when you order these. It is fortunate, however, that the variety which I consider the very best of all, *Melpomene*, is so perfectly distinct that it cannot be confounded with any other. It is said to be a seedling raised from the older varieties by a Mr. Hovey of Boston, U.S.A., and for a long time was very expensive, but when it fell into the hands of the Dutch bulb growers they managed to so successfully manipulate it that the price soon came down to within reasonable limits. The colouring is very chaste, and the plant vigorous; my clump of it, consisting originally of about six

bulbs, is now a mass of flower buds, and will continue in bloom now for some weeks.

I have never been able to do anything with the delicately coloured variety known as *punctatum*. This is another of those curious things we meet with in gardening, for there seems to be no reason why it should be the only delicate variety in a group generally so vigorous. There is some little confusion about the white varieties of *Lilium speciosum*. There are four which I have grown in my garden—the original album, album *Krætzerei*, album novum, and one which I had from Mr. Ant. Roozen, and which I do not see in other catalogues, under the name of *Vestale*. Some of these differ in their broader petals and foliage, while album novum differs from *Krætzerei* in having the anthers a golden yellow instead of brown. On the whole, however, I think *Vestale* to be the best of the four. It is of the purest white, and has nothing of that green stripe which is found in the centre of the petals of *Krætzerei*. It is a large flower, and although it has not behaved so well this year, I am inclined to attribute its failure to the drought, which has been very trying to so many of the plants in the herbaceous border. It may, of course, be owing to the Lily mite, but I have not yet had an opportunity of examining the bulbs, but both my clumps of this and *Krætzerei* are weak this year.

LILIUM TIGRINUM AND ITS VARIETIES.

The two best forms of *tigrinum* are, I think, *splendens* and *Fortunci*. I have never cared much for the double form, *tigrinum flore-pleno*. My plants of these two fine varieties are not quite what I should wish them to be. I do not know why this should be the case, but I have seen plants of the common *Tiger* in cottagers' gardens in my parish which are far more vigorous than mine. There is another Lily whose behaviour never does satisfy me—viz., *superbum*; it is a North American species, and is spoken of sometimes as *Swamp Lily*. If this name designates correctly its habitat it will sufficiently account for its comparative failure with me. Our climate in East Kent is dry, the average rainfall not being above 28 inches, and during the last three years it has been considerably below the average. My garden lies in a very warm and sheltered position and the soil is light, and all these conditions militate against the success of the plants. I cannot find a moist situation for it in all my garden, and hence instead of having a plant 5 or 6 feet high it is never much more than half that.

It will thus be seen that even in a small garden like mine there are many of this most beautiful class of plants to delight us in the early autumn, and while one sees the stems of the early flowering species dying off, for I never allow them to be cut away, the later ones which I have mentioned cheer us with their beautiful and fragrant blossoms.—D., *Deal*.

FIGS UNDER GLASS.

ON previous occasions I have contributed to the pages of the *Journal of Horticulture* notes on these luscious fruits, and I am now sending a few more. I do this as I have long been of the opinion that in many gardens Figs are not given the attention they deserve when we consider how highly good fruits are appreciated by almost everyone.

EARLIEST FORCED TREES IN POTS.

The trees that have been forced early, or started and grown on with a view to that purpose for the first time, will have the wood matured, and require attention at the roots. As it is not advisable to increase the pot room in the case of established trees, remove a few inches of soil from the base, also the loose surface, and reduce the sides of the ball about an inch, cutting off the straggling roots. The trees may then be returned to the same size of pot, providing thorough drainage, and potting firmly in a compost of four parts of turfy loam, one part of old mortar rubbish, and a part of thoroughly decayed manure. Ram the soil firmly, afford a good watering, and place the trees where they can have air, with shelter from heavy rains and snow, also safety from frost.

This method answers for trees not allowed to root to any great extent from the pots, but trees that are in large pots, and have been stood on brick pedestals to prevent their sinking with the fermenting materials, require different treatment. In their case all the fermenting materials, whether Beech or Oak leaves or other substances, should be removed, and all the surface dressing from amongst the roots, with a hand fork. Shorten the strongest roots, and attend to the drainage, then place the trees in position on the loose brick pedestals, and surface-dress with the compost named, rammed firmly into the pots. Supply water to settle the soil, and after this keep the house cool, dry, and well ventilated until the time of starting in November or December. This is a preferable plan to repotting annually, as the trees are less liable to cast their first crop of fruit, and it is not advisable to disturb trees in 18 or 20-inch pots at the roots more than can be helped. In the case of trees that are not in as large pots as desired, or when it is thought desirable to increase the root space, a liberal shift may be given, the sides of the ball loosened with a hand-fork, and straggling roots cut back, also the matted roots in the drainage.

'SUCCESSION HOUSES.'

Those in which the trees have ripened the second crops of fruit must be kept drier as the days become shorter. A little fire heat is necessary,

with a free circulation of air to prevent damp. The wood must be fully exposed to the influence of sun and air. Thin all soft and useless wood, and allow the points of the shoots to stand out well to the glass and light. Supplies of water must be discontinued for borders that have been properly mulched and watered up to the middle of the month.

LIFTING OVER-LUXURIANT TREES.

When the trees grow too vigorously for fruit production they should be root-pruned or lifted as soon as the leaves have begun to turn yellow, attending to it shortly after the second crop of fruit has been gathered. In the case of very luxuriant trees it is advisable to make a trench at a distance of about one-third from the stem that the branches cover of trellis, cutting off all roots down to the drainage, and leave this open for a fortnight. The treatment will induce bud formation and the ripening of the wood. Afterwards the trees may be lifted or have the soil carefully removed from amongst the roots, fresh supplied, and the whole made firm, including the trench.

In other cases carefully lift the trees and cut back all long roots, reserving the fibres only. Good drainage is necessary. A foot of brick-bats with a thin layer of old mortar rubbish over them, and then a couple of feet depth of soil, composed of good turfy loam four parts, and one part each of old mortar rubbish and road scrapings, form a good compost for Figs. A border of 4 to 6 feet wide is very much better than one with a great width, indeed one-third the width of the trellis is ample. Place the soil together firmly, spread out the roots evenly, work in the soil amongst them in layers as they rise, and keep them well up, not covering the topmost more than 2 or 3 inches. The soil may be moist when used, but it ought not to be wet. Give a moderate watering, and keep cool and dry.—GROWER.

BEGONIA PRESIDENT CARNOT.

AMONG shrubby Begonias there are a great number of beautiful plants, each of which can lay claim to a foremost place in the stove or warm greenhouse; but of the whole section probably no single one stands out more prominently or deserves a greater amount of admiration from horticulturists generally than the one under notice. The flowers are produced—a great number together—in pendulous trusses, the male and female flowers being borne on separate trusses. The former are three-quarters of an inch across, and produced twenty or more together, and are bright rosy pink in colour. The latter are similar in colour, but much more striking. They are $2\frac{1}{2}$ inches long by $1\frac{1}{2}$ inch across the open petals. The ovary is upwards of $1\frac{1}{2}$ inch in length, with highly developed wings the same colour as the petals.

If grown in 6-inch pots, plants $1\frac{1}{2}$ to 2 feet high, with four or five stems, can be had in a few months from cuttings. These when in flower make serviceable decorative plants for a considerable time, as the flowers last well and are produced at almost all times throughout the year. Although doing well in pots, it is seen to far greater advantage if room can be afforded it against a wall, pillar, or on a roof, the latter being the more preferable place, the pendulous racemes being then seen to the best advantage. When planted out the growths are much stronger, and the foliage and flowers correspondingly large. When grown in this manner the leaves are often 10 or 11 inches long by 6 inches in width, while the female trusses are often 9 inches to 1 foot in depth by the same in width, and contain upwards of sixty flowers.—W. D.

HORTICULTURAL SHOWS.

DERBY.—SEPTEMBER 7TH AND 8TH.

THE Derbyshire Agricultural and Horticultural Society held its thirty-seventh exhibition in the Cattle Market and Bass Recreation Grounds on Wednesday and Thursday of last week. The heat was intense, and was very trying. An enormous concourse of people crowded the Show on both days, and many of the visitors were taken off the grounds in a fainting condition, being completely overcome with the heat. The horticultural department has been for several years a source of attraction to the general public, but we regret to say there has been a great falling off in the number of entries compared with previous years. Fruit and vegetables for many seasons were a strong feature. Only two years ago upwards of 200 bunches of Grapes were staged for competition, compared with thirty-three bunches on the present occasion, and vegetables were always to be seen here in perfection. For some unknown reason these classes have been struck out of the schedule, which is to be regretted, and much commented upon by the public. This department, as on former occasions, was held in three large marquees.

Division I. was in a large circular tent, with the groups in the centre, and a table running round the tent, and on this occasion presented a sad contrast compared with former years. Instead of being laden with Grapes, Peaches, and other choice dessert fruits three parts of the space were unoccupied, and presented a dismal appearance. We trust that strenuous efforts may be made to revive this grand old country show. However, if we lacked quantity we had at least quality, and in the list of competitors we find many eminent and well-known exhibitors in the horticultural world.

The groups of plants on space of 200 feet (segment of a circle) were exceptionally fine, and had a very striking effect. Mr. J. Edmonds, Bestwood, was placed first with a beautifully blended arrangement, backed by a fine specimen of *Phoenix rupicola*, and interspersed with Palms, includ-

ing *Cocos plumosa* and *Weddelliana*: Crotons, among which we may mention Challenger, Warreni, Prince of Wales, and Countess; Anthuriums, Bamboos, Orchids, and Grasses. Mr. J. Ward, Riddings House, who has held the premier position at this Show for some years, was a dangerous second, and had a fine group, but failed slightly in his arrangement in the background, which was rather flat. Every plant in this group was a perfect specimen, and the Crotons, which were freely used, called forth expressions of admiration on all hands. This group was backed by a fine specimen of *Kentia Forsteriana*, and interspersed in raised groups with *Cocos Weddelliana*, Crotons Warreni, Corastins, Mrs. Dorman, Reidi, and Queen Victoria, with a groundwork of Orchids and light Grasses. Mr. J. McIntyre, Darlington, was placed third with a very pretty group, but somewhat cramped. Mr. G. Woodgate, Rolleston Hall, came in fourth with a splendid group, and would have stood higher if he had put on a better finish; his groundwork was somewhat rough. Mr. Stevenson, Alton Manor, took the fifth place.

For a decorative dessert table of ripe fruit and flowers, fruit not to exceed fourteen dishes, Mr. Goodacre was an easy first with fine Muscat of Alexandria and Black Hamburg Grapes, Peaches, Melon and Figs, very fine; Mr. Edmonds second; and Mr. Ward third.

There were only two classes provided for Grapes, three bunches any variety black, and any variety white, a very unsatisfactory class. Any variety black Grapes, three bunches, Mr. Campbell was an easy first with superb Black Hamburgs, perfect in finish, compact medium-sized bunches, and very fine in berry. Mr. Doe, Rufford Abbey, came in second with well finished but rather loose bunches of Barbarossa. Mr. Evans, Chaddesdon Hall, third with neat well-finished Alicante; and Mr. Goodacre fourth with large bunches of Gros Guillaume, but wanting in finish, and berries rather small. Any variety white Grapes, three bunches, Mr. Campbell was again an easy first with very pretty, well-finished Muscat of Alexandria; Mr. Goodacre second with much larger bunches and berries, but failed in finish.

Non-competitive exhibits were varied and interesting. Mr. J. Norman, St. Peter Street, Derby, was awarded the Society's gold medal for a magnificent collection of fruit, and in our opinion the best exhibit in the show, including perfect bunches of Madresfield Court and Muscat of Alexandria Grapes, which were fine in bunch, berry, and finish; splendid Princess of Wales Peach, Pitmaston Orange Nectarines, Jargonelle Pears, and Transparent Gage Plums. Messrs. Webb & Sons, Wordsley, staged a beautiful collection of Gloxinias, and were also awarded a gold medal. Mr. Finch, Ashbourne Road, Derby, was awarded a silver medal for a fine stand of Begonias. Mr. J. H. White, Worcester, was awarded a gold medal for a collection of herbaceous flowers and Dahlias. Special prizes were offered by Messrs. Webb, Carter, and Sutton & Sons for vegetables.

WELLINGBOROUGH AND MIDLAND COUNTIES DAHLIA SOCIETY.

THERE is every prospect of a flourishing Dahlia Show being established at Wellingborough. It is known also as the Midland Dahlia Exhibition, and there is great need for a revival of that interest in the Dahlia which was so active and healthy when Charles James Perry resided at Birmingham; and Tamworth, Rugby, Oxford, Coventry, and other Midland centres glowed with enthusiasm on behalf of this fine and useful summer and autumn flower. This was the third exhibition, and the advance in quality shown among the local growers, and especially by the artisan class, is most remarkable. Mr. Thomas Pendered, the President, one of the ablest of the public men of Wellingborough, is a tower of strength to the Society; and there being a united hard-working Committee, and painstaking Secretary in Mr. W. Spriggs, success is certain if only the public will support the Society by attending the annual Show. There was a considerable accession of exhibitors and a most gratifying increase in the number of entries, with the result that the Corn Exchange was filled with Dahlias of all types, in glowing colours and high quality.

A considerable contingent of southern trade growers, in grateful remembrance of the generous welcome accorded to them last year, took down their flowers for competition in the open classes. Messrs. Keynes & Co. of Salisbury, J. Walker of Thame, J. Burrell & Co. of Cambridge, J. Mortimer of Farnham, and G. Humphries of Chippenham were all exhibiting, and the southern amateur element was admirably represented by Mr. H. A. Needs of Horsell, Woking. Mr. R. Burgin, the successful amateur exhibitor at the Crystal Palace, was there also. The silver-gilt medal offered by Messrs. Dobbie & Co. of Rothesay for the number of points gained by one exhibitor was won by a young aspirant to floral honours—Mr. W. E. Prentice, jun., of Wellingborough.

There were seven entries of twenty-four blooms of Show Dahlias, the first prize going to Mr. John Walker, Thame, for a very even stand of blooms, chief among them John Hickling, Perfection, Buffalo Bill (self). Mrs. J. Downie, Harry Turner, John Walker, Mrs. Every, Duke of Fife, William Powell, and James Cocker. Mr. S. Mortimer, Farnham, was second with rather smaller but fresh and compact flowers. Messrs. Keynes, Williams & Co., Salisbury, were third; and Mr. Geo. Humphries, Chippenham, was awarded an extra prize. There were nine entries of twelve blooms, Mr. J. Walker being again first, his leading flowers Daniel Cornish, Goldfinder, Duchess of Albany, W. Keith, John Hickling, and Goldsmith. Mr. Mortimer was again a good second; and Messrs. C. Kimberley & Son, Stoke, third.

The best twenty-four blooms of Cactus Dahlias, distinct, shown on boards in the same manner as the Show varieties, brought six entries.

Messrs. Keynes & Co. were placed first with a very fine stand of blooms, excellently arranged to show contrasts of colour, the flowers of even size and very fresh. The following were especially noticeable: Britannia, Stella, Exquisite, Daffodil, Mr. John Goddard, Harmony, Ethel, Progenitor, Laverstock Beauty, Wallace, The Clown, Starfish, and Countess of Lonsdale; second, Messrs. J. Burrell & Co., who had fresh, bright flowers, rather smaller in size, chief among them Lucius, Island Queen, Britannia, Keynes' White, Debonair, Ajax, and Mimosa, several being very promising varieties of Mr. Burrell's own raising. Mr. S. Mortimer was third. Messrs. Keynes & Co. also had the best twelve blooms, there being nine exhibitors in this class. Mr. G. Humphries was second, and Mr. S. Mortimer third, the flowers being much the same as those already named.

There were six entries of twelve bunches of Cactus, three blooms in a bunch, and the competition was very keen. Messrs. Keynes & Co. were first with a very fine collection, consisting of Britannia, Radiance, Wallace, Progenitor, Countess of Sherbrooke, Countess of Lonsdale, The Clown, and Starfish; second, Messrs. J. Burrell & Co., who came very close with striking bunches of Antelope, Lucius, Mary Service, Keynes' White, Starfish, and Britannia; third, Mr. S. Mortimer. With twelve bunches of Pompon Dahlias, six in a bunch, there were five competitors, Messrs. J. Burrell & Co. being placed first with a delightful collection, the flowers small, very compact and even, and singularly fresh and perfect, the varieties, Arthur West, Bacchus, Phoebe, Tommy Keith, Rosebud, and Douglas; second, Messrs. Keynes & Co., also with charming bunches of Spitfire, Clarissa, Tommy Keith, Hypatia, and Emily Hopper; third, Mr. J. Walker.

In the amateurs' division, confined to those who do not employ the exclusive services of a gardener, Mr. F. Middleton, Althorp, was first with a stand of very good blooms, and Mr. R. Burgin, St. Neots, was second, he showing very well also. The varieties exhibited were mainly the same as those in the open division. There were six entries in this class, and seven in that for six blooms. In this class Mr. Burgin was first, and Mr. Middleton second. Mr. Middleton had the best twelve cut blooms of Cactus, having in very good character Britannia, Island Queen, Earl of Pembroke, Standard Bearer, Starfish, Archne, and Night; second Mr. H. A. Needs, Horsell, Woking, also with good blooms; and third Mr. R. Burgin. There were eight entries of six blooms of Cactus, Mr. Middleton coming in first and Mr. W. E. Prentice, jun., Wellingborough, second. With six bunches of Cactus varieties, three in a bunch, Mr. H. A. Needs was first, having in capital character Harmony, Starfish, Charles Woodbridge, Keynes' White, and two others. Mr. R. Burgin was second and Mr. Middleton third. Pompons in bunches of three blooms were also well shown by amateurs. Mr. Burgin had the best bouquet, of which Dahlias were to be the chief feature.

Wellingborough cottagers showed Dahlias in very good character, for they soon caught hold of the ideal of quality set up by a competent judge. Mr. W. Mason had the best twelve blooms of Show and Fancy, staging capital examples of Dazzler, Hon. Mr. Wyndham, W. Powell, George Gordon, and Mr. Gladstone. Mr. W. Gennis was second, and Mr. E. Prentice, jun., third. Mr. Mason also had the best twelve cut blooms of Cactus, Mr. Prentice was second, and Mr. E. Matthews third. Mr. W. E. Prentice had the best six blooms of Show Dahlias, putting up very fine flowers; Mr. Mason was second, and Mr. E. Coles third. Mr. Prentice was also first with six blooms of Cactus, Mr. Coles second, and Mr. W. Walden third; and six bunches of Pompon Dahlias were also of good character. Mr. Prentice also won the first of the special prizes offered by Mr. Richard Dean for three bunches of Cactus Dahlias shown by cottagers. Mr. W. Spriggs, the Secretary of the Society, was second, and Mr. W. Mason third. Mr. E. Matthews won the first of the special prizes offered by Mr. Geo. Humphries for six blooms of Show Dahlias; Mr. Gennis was second, and Mr. Cox third. Asters were also shown by cottagers, and it was agreeable to see they gave the preference to Truffaut's Pæony-flowered varieties.

Fruit and vegetables were also invited to add interest to the Show. The two best bunches of Grapes were well finished Muscat Hamburg from Messrs. T. Clayson & Son, Wellingborough. Mr. H. Rathman was second with a bunch each of Black Hamburg and Alicante. The best three dishes of culinary Apples were shown by Mr. T. Pendered, who had in good character Warner's King, Peasgood's Nonesuch, and Ecklinville. Second, Mr. J. E. Bugby, Besborough, with Ecklinville, Peasgood's Nonesuch, and Perkins' A1, which bears a resemblance to Warner's King. Mr. Pendered was also first with three dishes of dessert Apples, having capital fruit of Cox's Orange Pippin, Worcester Pearmain, and King of Pippins. Mr. G. Douglas, Wellingborough, was second with Quarrenden, Cox's Orange Pippin, and Worcester Pearmain. Mr. Pendered was also first with three dishes of Pears, having good fruit of Louise Bonne of Jersey, Pitmaston Duchess, and Marie Louise. Messrs. T. Clayson and Son were second with Madam Treyve, Clapp's Favourite, and Souvenir du Congrès. Some good Tomatoes were shown by Messrs. Bugby and others. Cottagers' vegetables were shown in several classes, and in all cases they were very good.

The following certificates were awarded by a jury of the leading Dahlia exhibitors:—To Show Dahlia David Johnson and Cactus Dahlia Ranji, from Mr. G. Humphries; to Cactus Dahlias Wallace, Progenitor, The Clown, Viscountess Sherbrooke, Radiance, and Countess of Lonsdale, from Messrs. Keynes, Williams & Co.; to Cactus Magnificent, from Mr. J. Stredwick, Silverhill, St. Leonards; to Cactus Lucius and Antelope and Pompon the Duke, from Messrs. J. Burrell & Co.

The Judges were Mr. Richard Dean, V.M.H., and Mr. Percival. An interesting collection of small-flowered Cactus Dahlias came from Mr. John Green, Norfolk Nurseries, Dereham, which was highly commended.

THE YOUNG GARDENERS' DOMAIN.

HELIOTROPE.

CONSIDERING the usefulness of Heliotropes as autumn and winter-flowering plants they are not, in my opinion, so generally grown as they deserve. The plants are easy to produce, and with a little care they prove a great attraction in the conservatory. They can be grown outside as bedding plants until late in the autumn, but their sweet-scented flowers are missed with the first sharp frost. To obtain plants for winter flowering the cuttings should be inserted in the spring in a light soil, composed of leaf mould and sand, and as soon as they are well rooted placed in 3-inch pots. The soil best suited to them is a mixture of two parts rich fibrous loam and leaf mould, and cow manure in about equal proportions, with some sand added.

Heliotropes may be grown with good effect in several ways, but from my experience they are most useful for furnishing in the form of pyramids in 6-inch pots for the first year, and if they are required larger they may be rested, pruned, potted, and started similarly to Fuchsias. If a large specimen is planted out in a border, to be trained on the wall of a house where the temperature does not fall below about 45° in winter, it will bloom very freely, and be found most useful for cutting. The chief condition for their successful culture is that they should be grown with as few checks as possible. The plants must be kept under glass till about the end of June, when they may be placed outside in a warm aspect. If needed late in the autumn they may be taken inside about the middle of September. Sufficient heat only is required to keep them growing. Care should be taken to water them carefully, and syringe on favourable occasions. As the pots become nicely full of root encourage with a stimulant. A little soot water improves the foliage.—S. S.

FREESIAS.

ABOUT this season we may be preparing for floral displays during the early part of next year. Various South African plants are suitable for this purpose, and a large proportion of them are bulbous. Freesias are amongst the best and most admired, and they quite deserve their popularity.

The bulbs should be potted early in September in a light compost of loam and leaf mould, or well-decayed manure with sand in proportion to the kind of loam used—whether abounding in clay or in sand. They may then be placed in a frame where they can have plenty of light and air, and where the temperature can be maintained above freezing point. If watered just after potting no more will be needed till growth is apparent. If some are required for an early supply, those showing flower spikes may be put in a higher temperature, and so may be had in flower about Christmas. The others will afford a supply for the early months of the year. When growing they should not be allowed to become dry at the roots, and the growth which continues after the flowering stage ought to be encouraged by judicious watering and a genial atmosphere.

When the weather gets warmer, and there is no danger of frost, they may be placed outside, and after the foliage has died down they can be kept dry till the autumn. Slight showers of rain will be beneficial rather than otherwise, even after the foliage has disappeared. There are several varieties of the common type—*F. refracta*. The favourite one at present is *alba*, which merits its position by its purity of colour and delightful scent.

Bulbs of a pink variety were imported from the Cape about the beginning of this year, and they have been in flower for the last three weeks—the untimely flowering being due to the date of importation and consequent growth. There turned out to be two forms, one with flowers having a pure white tube and pink-tinged lobes; the other, which is sturdier, has a rich orange tube with bright pink lobes. Both forms are decided acquisitions, and with a little improvement in size and substance of flower will be highly prized for greenhouse decoration.—X. L. C. R.

RED AND WHITE CURRANTS ON WALLS.

MANY vacant spaces between large fruit trees on walls might be profitably occupied by Red or White Currants grown as cordons, and very helpful to the dessert supply will an occasional dish prove, especially where large families have to be catered for. Planting Currants against walls may at first appear somewhat absurd, but when we consider its advantages in connection with a large plantation grown as bushes, it will be readily seen how much the supply may be prolonged by a little forethought on the part of the grower. Their position on walls renders it easy to cover them with nets against the ravages by birds or early and late frosts, while the weight of fruit to be obtained from a single cordon, properly pruned, is surprising.

A cordon may have one, two, or three stems, and is formed in the following manner:—The cuttings are inserted firmly in the soil in the ordinary way, removing all eyes but three, and when it is seen they are well on the move in the spring, one shoot only is retained and trained in an upright direction; it is thus allowed to grow until the fall of the leaf, when it is shortened back to about 6 inches from the starting point, which is repeated each year until the tree is built up. It is important that the shoot selected for extension be on the opposite side to that of the previous year, otherwise the tree will not retain its proper shape; all other growths are "spurred in" in the manner commonly practised on Red and White Currants.

For affording the first dishes space should be found for a few trees on a south wall; here they will with due attention produce fruit fit for use early in June, while the very latest dishes will be gathered from trees planted against a north wall. I have seen excellent fruit hanging on

trees in the latter position up till the end of October; these were of course protected from early frosts. It is better to start with trees, say three years from the cutting stage, as these will soon come into bearing. The best time to plant all fruit trees is at the end of the present month, as this affords time for fresh roots to be made before the advent of severe weather.—T. P.



HARDY FRUIT GARDEN.

Gathering and Storing Fruit.—*Cleansing the Fruit Room.*—It is important to have the interior of the fruit room clean, sweet, and dry before the best and choicest fruit is stored therein. In order to secure this desirable end, clean out the structure thoroughly. The woodwork should be washed and scrubbed with hot water, the walls effectually cleansed with hot lime, and all dust and dirt removed from the floor. Leave the structure fully ventilated until perfectly dry. Allow nothing superfluous to remain in the room during the time the fruit is there, especially straw mats, or material of a perishable nature likely to infect or impart a disagreeable odour or flavour to the fruit, which, when ripening, it easily receives.

Gathering Fruit.—There are many varieties of early Apples and Pears which may be gathered now. Sure tests of their fitness to be gathered may be found in the tendency of the fruits to drop from the trees, their appearance—as indicated by changing from green to yellow or red, the dark colour of the pips or seeds, and the easy separation of the fruit from the spurs when lifted to a horizontal position. If the fruits require dragging or twisting to detach them they are not ready to be gathered. The work is best carried out at intervals, as it is seldom that all the fruit on a tree is ready at one time. The fruit ought to be perfectly dry. As it is gathered from the trees carefully place it, without bruising, in baskets lined with soft material, conveying it to the shelves in the fruit room in a similar careful manner. If the fruit is to be stored in portable trays, boxes, or drawers, the fruits might be placed in them at first, thus avoiding more handling than necessary.

Storing Fruit.—The structure in which fruit is stored ought to possess a cool, dry, and equable temperature. In winter 40° to 45° will be sufficiently high. Store all fruit if possible in single layers. The advantages of adopting this plan are obvious. The fruit is readily examined without having recourse to handling it unnecessarily, and it keeps in a sounder condition over a longer period. Apples and Pears may be stored in the same room, but separately from each other, while the various varieties must be distinct, and where numerous properly labelled. A constant circulation of fresh air must be insured, avoiding, however, draughts. Semi, if not absolute darkness is essential; and frequent examination, for the purpose of removing fruits immediately they show indications of decay, is imperative.

Gooseberries.—*Summer Thinning Bush Trees.*—Rank growth of new wood and the weight of the crop combined cause the branches to become rather crowded on the under side of the bushes, many of the growths touching the ground. These may be freely pruned away now, so as to admit sun and air to all the remaining wood. It may be necessary also to thin-out rank growth in the upper parts of the trees, thus insuring complete ripening. The present pruning will not only do this, but it enables the cultivator to properly balance and regulate the shape. Preference should be given to well-ripened young wood for producing the crop, cutting out old and exhausted branches where practicable. The adoption of summer thinning frequently renders winter pruning unnecessary in the case of bushes.

Treatment of Wall Gooseberries.—The crop from upright cordons on walls is usually the latest to be gathered, especially when grown on a north aspect. When all the fruit has been cleared the trees will benefit considerably by vigorous syringing to remove dust, dead leaves, and red spider, which attacks the foliage of Gooseberries. The summer shortening of the foreright shoots ought to have been carried out some time ago. The leading growths may be nailed in for extension if necessary. The next proceeding should be to well moisten the roots, affording water and liquid manure. The soil is usually very dry at the base of walls. Mulching will also be of service.

Morello Cherries.—This a good season to re-arrange and regulate the trees, taking the opportunity to remove exhausted branches and fill their places with others of a vigorous, healthy character, well furnished with young growths. Prune away all the wood which has borne the crop, the trees being then composed of main and secondary branches and fruiting shoots. Nail in the latter 3 or 4 inches apart after the principal branches have been secured. If not at present convenient to complete the training the extremities, if not the full length of the young shoots, may be left somewhat loosely, securing finally in the winter. So far, however, as appears necessary, all the pruning of superfluous wood may be done now. Vigorous syringing with clear water will do the trees considerable good in cleansing the foliage of red spider or thrips which may have become established during the time the fruit was ripening. Should the pests be numerous their destruction must be compassed by an

effective insecticide. Root moisture must be maintained, dryness of the soil frequently being the sole cause of insect attacks and fruiting failure.

FRUIT FORCING.

Young Vines.—Afford these every encouragement essential to the perfecting of their growths, keeping the foliage clean, removing all laterals, as growth produced after this is of no value, and maintain a warm, well-ventilated atmosphere, until the canes are thoroughly ripened. Any supernumeraries intended to fruit heavily next season should have the laterals cut away to the principal buds, leaving, however, an outlet for any excess of sap by a few joints of the laterals beyond the length of cane to which they are to be shortened, and be careful not to injure the principal leaves. If the wood does not ripen well it may be accelerated by keeping the house rather close in the daytime, so as to get a temperature of 85° to 90° from sun heat, opening the ventilators at night. Afford sufficient water, and no more, at the roots to prevent the foliage becoming limp.

Midseason Houses.—When the Grapes have been cleared from the Vines divest the shoots of their laterals down to the principal buds that are to be retained for next year's fruiting. Be careful, however, to avoid injuring the old leaves, for upon their preservation in health depends the perfecting of the buds and the storing of nutrient matter in the adjacent wood, which is essential to a good break and a proper development of the bunches in the ensuing season. Allow a free circulation of air, and in the case of young or luxuriant Vines, or where there is the slightest doubt about the thorough maturity of the wood, maintain a gentle warmth in the hot-water pipes.

After the removal of the laterals clear away the remains of mulchings, or remove the loose surface soil, particularly near the collar of the Vines, picking the old soil from amongst the roots, and supply fresh loam in its place. Avoid burying the roots deeply, a couple of inches is sufficient. They will push adventitious roots into the new material, and these can be encouraged to extend by timely surface dressings or light mulchings when the Vines are in need of support another season. If a good handful, or about 4 ozs., of some approved fertiliser be applied per square yard of border, it will aid the Vines wonderfully another season. Inside borders will require water so as to keep the soil healthfully moist.

Late Hamburgs.—Houses of these that were allowed to start naturally will perhaps need a little fire heat to colour and finish the Grapes satisfactorily, as they will when it is hopeless to do anything more with the thick-skinned varieties. They should have a temperature of 60° to 65° at night, and 70° to 75° in the daytime, with a circulation of air constantly, and free ventilation when favourable. Water the inside border if necessary and the Grapes are only partially advanced in ripening. Only restrict the laterals to prevent overcrowding, as a good spread of foliage over thin-skinned black Grapes is the best safeguard against the sun taking colour out of them when ripe. When the Grapes are ripe gradually reduce the temperature, maintaining it at about 50° by artificial means by day, and 45° at night, with a little air constantly.

Late Muscats.—These require fire heat until they are thoroughly ripe, with a free circulation of air in the daytime, and enough at night, with gentle warmth in the pipes, to insure a circulation of air and to prevent the deposition of moisture upon the berries, being careful to admit air freely on fine mornings. Continue the temperature at 65° at night and 75° by day until the Grapes are thoroughly finished, when a gradual reduction of temperature may be made to about 50° at night, but there must not be any hurry in this, as the Grapes put on colour long after they appear finished, and improve in quality while there are any leaves on the Vines. Keep the border moist by watering as necessary in the early part of a fine day, for though the leaves become yellow at the edges they have green parts more or less that are useful in assimilating food. Moisture must be kept down by free ventilation; it is pent-up moisture-laden air with a sudden increase of temperature from sun early in the day or at any time which causes moisture to condense on the berries and produce spot, when the berries speedily decay.

Late Grapes.—The thick-skinned Grapes are not so readily affected by moisture in the atmosphere as the thin-skinned Muscats, for some, such as Mrs. Pince, will shrivel in a house where there is sufficient moisture to cause Muscat of Alexandria to decay. Mrs. Pince is perhaps the worst to finish of all Grapes, and unless it is thoroughly ripened it is sure to shrivel. Alicante and Lady Downie's finish better and in less time than Gros Guillaume and Gros Colman, therefore the latter should be given more time, and after they are apparently finished a temperature of 55° should be assured, with a rise of 5° to 10° by day and a circulation of air until the foliage is giving indications of falling, when a temperature of 50° is sufficient. The inside border should be watered in the early part of a fine day, and air be freely admitted, for it is not so much the moisture as its confinement that causes berries to crack.

Strawberries in Pots.—Late runners may yet be potted, giving them 5 or 6-inch pots, and if these are well occupied with roots before winter the plants will produce good fruit, though not so plentifully as those potted earlier, nor are they suitable for early forcing, but they do well for succession, especially when brought forward very gently. Plants potted some time ago should be examined, and if making side buds these must be carefully removed with a piece of wood, so as to throw the vigour into the central crown. This should not be overdone, as some varieties only show a few crowns, and must not be interfered with. If the plants grow vigorously liquid manure will not be required, but those that are weakly should be supplied with it twice a week. Remove all runners as they appear, and loosen the surface of the soil, especially round the edges of the pots, so as to secure the more thorough moisten-

ing of the ball. As the plants grow set the pots wider apart. If red spider attacks the plants hold each inverted with one hand, and with the other dust the under sides of the leaves with soot from a dredger.

THE BEE-KEEPER.

DRIVING BEES—REMOVING BEES FROM STRAW SKEP TO FRAME HIVE.

A NEIGHBOUR of mine gave me two skeps of bees last week; he was going to burn them with brimstone in the old fashioned way. He said I might have them if I chose to drive them, which I did, and as far as I can judge they are all right. As there seemed to me to be rather few bees I united them. When I say few, not so many as one would get in a good swarm. I am feeding them with syrup. I intend them to remain in the skep until the spring, when I hope to have a bar-frame hive ready for them. Will they make any combs in the skep they are in, or will they be about the same in the spring as they are now? If they make combs it would be wasted so far, as I do not intend them to remain where they are. I should be pleased if you would advise me what to do, as I am only a beginner. It was my first attempt at driving, but the bees were very quiet, and I came off without a sting. I had to carry them about a mile. I have not seen anything of either queens yet; I thought most likely one of them would have been worked out by now.—GRATEFUL.

It is gratifying to be informed by "Grateful" that he has been so successful in his first attempt at driving and uniting bees. The reason there appeared to be so few bees was doubtless due to the fact that many of the old ones die after the honey flow is over. This has been observed earlier than usual this autumn, the old bees having become exhausted from old age and hard work during the fine weather experienced throughout the country during the past two months. No fear need be felt in this respect, as the bees from two ordinary stocks will be of sufficient strength to live through the winter, and come out strong next spring. The bees will settle the question as to which queen shall head the colony; the dead queen being often carried several yards from the entrance to the hive, hence the reason of her not being observed to be cast out.

Continue to feed with syrup until the hive is three-parts full of comb in which there is at least 20 lbs. of stores. The high temperature now prevailing is in favour of comb building, as they will stop operations directly a spell of cold weather sets in. Bees would not winter in a skep without comb, which need not be wasted, although they are to be transferred to a frame hive in the spring, as the bees may be driven, the combs carefully removed, and placed in the frames without any harm happening to them. All that is necessary will be a few pieces of narrow tape or raffia, which will answer the purpose admirably if brought round the bottom of the frame and tied firmly at the top; this will keep the combs in position, and the bees will make all secure in a couple of days, when the tape or raffia may be removed. In carrying out this operation care must be taken that the combs are in the same position they occupied in the skep, as the cells incline upwards, and if inverted the young brood would not do well. It would also give the worker bees a great amount of labour in altering the cells to prevent the honey being wasted by running on to the floor board.

Another plan which we prefer is to allow the stocks in skeps to swarm as early as possible in the spring, placing the swarm on comb foundation in the frame hive. Do not give them more than eight frames, and if honey is coming in freely place a crate of sections or shallow frames on the top directly the frames are filled with fully drawn out combs, which should take place in about ten days. All will depend on the strength of the swarm and the weather. By working a swarm in this manner a surplus may be obtained from them the first season. But care must be taken that there is no open space between the division board and the side of the hive when the super is put on, as the bees will fill it with comb before working in the surplus chamber above. It may be filled with carpet or something similar, and directly the few frames are crowded with bees they will take possession of the super.

The stock in a straw skep, if in good condition, will probably swarm again in about ten days. This is termed a cast, and it will be headed by a young unfertilised queen. These may be placed in a skep or frame hive—the latter if possible. In less than three weeks the young queens will be laying, both in the original stock in the skep and in the cast.

As soon as the honey flow is over remove the queen from the first swarm, and introduce the queen from the cast, as advised in previous notes. The old stock may then be driven from the straw skep, and the bees united to the cast. Presuming that the latter was placed in a frame hive, it will be advisable to brush the bees off the comb into

an empty skep, so as to make them homeless. The driven bees will then unite readily with them, and "Grateful" will be the possessor of two strong colonies, each headed by a young fertile queen.
—ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

Barr & Sons, Covent Garden.—*Bulbs.*
R. H. Bath, Ltd., Wisbech, Cambs.—*Bulbs, Carnations, Roses, and Lilies.*
Collins Bros. & Gabriel, Waterloo Road.—*Bulbs.*
A. Cross & Sons, Ltd., Hope Street, Glasgow.—*Bulbs.*
Dobbie & Co., Rothesay.—*Bulbs and Plants.*
Fotheringham & King, Dumfries.—*Dutch Bulbs and Flower Roots.*
W. Fromow & Son, Chiswick.—*Bulbs.*
Hogg & Robertson, Mary St., Dublin.—*Irish Grown Daffodils and Tulips.*
Kent & Brydon, Darlington.—*Flowering Bulbs.*
W. E. Martin, Market Place, Hull.—*Bulbs.*
W. Paul & Son, Waltham Cross.—*Roses.*
Ant. Roozen & Son, Overveen, Haarlem.—*Dutch and Cape Bulbs.*
Toogood & Sons, Southampton.—*Bulbs.*
C. Turner, Slough.—*Bulbous Roots.*
R. Veitch & Son, Exeter.—*Bulbs, Roses, and Trees.*
Webb & Sons, Wordsley, Stourbridge.—*Bulbs.*



All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Conglomerate Pear (G. A. T.).—The Jargonelle Pear is a great curiosity, and consists of three fruits superimposed, but with only one set of floral organs, and these doing duty in fertilisation for the three different, yet connected, sets of ovaries and ovules. Usually only those nearest the eye are fertilised. Each fruit has its separate calyx bracts, which adhere to the pericarp or develop into points. The fruit next the stalk has been infested by the very minute Hawthorn fruit or "haw" moth, *Carpocapsa minuta*, the caterpillar of which does not exceed a quarter of an inch in length. This creature, dull yellow with a black head, had only just emerged from the fruit, and was extremely lively. Such fruits possibly represent reversion to original types, both Crab and wild Pears having the calyces sometimes disposed over the surface of the fruit.

Large "Geranium" Leaf (J. D. S.).—We are pleased if we can reduce harmony out of "conflict" in any "department," and it may be particularly desirable to be on good terms with yours, which is so important. The Zonal Pelargonium leaf received is above the average size, but we have seen many larger, especially of the "giant" varieties, such as Smith's Scarlet, which used to quickly cover the walls and pillars of conservatories 12 to 15 feet high, but are not common nowadays. The leaf is 6½ inches in diameter, and if the plant which produced it, and also a "splendid crop of bloom," were grown in a pot, it has been well cultivated. It resembles, however, that of a plant growing in rich soil in a garden, and somewhat shaded by other leaves, or something else, and as if it had been stretching itself out to receive all the light that it could reach, as leaves will do, for there is a good deal of intelligence in plants, and they ought to be well trained in that respect in your interesting "department."

Melon Roots (Parvo).—Owing to misdirection your specimens reached us too late for examination and report in this issue. Attention will be given to them next week. Kindly read rules to correspondents at the head of this page.

Chrysanthemum Leaves Diseased (Anxious).—The leaves are badly infested with the leaf rust fungus, *Uredo chrysanthemi*, and the two you have sent as having been treated with the solution of the substance you received for sulphide of potassium has not had any effect on the innumerable spores. The article is sulphate of potassium—a very pure sample, the crystals being unusually clear. It has no value as a fungicide, but is useful as a manure. Sulphide of potassium, or liver of sulphur, is a reddish substance, altogether different from the article you sent; it also has an offensive smell, not unlike that of bad eggs, and it turns or forms with water a milk-like solution. Procure this article (Harris's is, perhaps, best), and use according to the instructions frequently given in our columns. Failing the liver of sulphur, use sulphuret of lime, or even Condy's fluid. Do something effectively without delay.

Onions Decaying (J. T.).—The Onion mildew (*Peronospora Schleideniana*) is the cause of the evil. The fungus first seizes the tops of the plants and descends to the bulbs, which decay from the neck downwards. This may have been accelerated by overfeeding with liquid manure, rendering the top succulent and the centre of the bulb relatively open. We cannot advise anything to arrest the disease, as it has possession of the "heart" of the bulbs. We have found dressings of freshly burned wood ashes useful as a preventive measure, and we should further supply a dressing of kainit to the ground shortly in advance of sowing, broadcasting at the rate of 3½ lbs. per rod, leaving the rains to wash it in, or not working in more than by raking. When the Onions are well up dress with soot 1 peck per rod, with a prospect of moist weather, and when the plants are of thinning size spray them with soluble petroleum, one part in seventy parts water, when likely to be fine weather. This we have found useful against both fungoid and insect pests. Of course all tops and diseased bulbs should be destroyed by fire, never turning the diseased tops underground nor throwing rotten Onions on the rubbish heap, and always paying strict regard to the proper rotation of the crops as the most successful general preventive. Celery is a good preparatory crop for Onions.

Celery Diseased (Idem).—The Celery is affected by "soft rot," which seldom attacks the stalks until earthed. Plants that have been heavily supplied with liquid manure during growth are usually the most liable to contract the disease when earthed up, especially on heavy or moisture-holding soils. Sometimes the decay is confined to the core, but the leaves and stalks are also affected by this malady, which spreads from above downwards, and large crops are often ruined by it. The stalks are blackened and rotten, and swarm with "bacteria" in the wet gangrene. Whether the bacteria is cause or consequence of the decay, the result is very disastrous, and against it we have not found anything better than dressing the land with salt, 7 lbs. per rod, or kainit, 3½ lbs. per rod, afterwards using light dressings of soot occasionally up to the first earthing up. We have also used light dressings of quicklime over the plants, alternating with those of soot, and in that way avoided the malady, using "collars" in earthing in the case of wet, and not earthing too soon or too high at once.

Slugworm in Pears (W. W.).—The leaves are attacked by the larvæ, called slugworms, of the Pear sawfly (*Selandria atra* of Stephens and Westwood), (*Tenthredo cerasi* of Linnæus and Curtis), and devour the upper surface of the leaves, consuming the soft parts, leaving only the lower skin of the leaf, veins, and midribs, the whole leaf turning brown or black, and ultimately falling. The larvæ usually commence their attacks about the middle of August, and prey upon the foliage until October, when they descend to and enter the ground, where they spin an oval cocoon, coated with earth, and from that the sawfly emerges in the following July. Dusting the leaves on the upper side with newly slaked quicklime, repeated once or twice at intervals of about half an hour, completely kills the slugworms. Another effectual remedy is to slake a quarter peck of quicklime in a tub, add 6 gallons of water, stir well, and allow it to stand twenty-four hours, then pour off the clear water. Dissolve 8 ozs. of softsoap in a gallon of boiling water, also steep 2 ozs. of the strongest tobacco in half a gallon of boiling water, cover, let stand until cool, then strain, and add the softsoap solution and the tobacco water to the lime water, mix all together, and apply with a syringe to every part of the trees, especially the upper surface of the leaves. Slugworm infestations are generally local, and recur year after year. As it is getting late, and some of the pests may have entered the soil from the fallen leaves and passed into the pupæ state, we advise the removal of the soil in winter a few weeks after the leaves are all down, taking it off 3 or 4 inches deep beneath the trees that have been infested, and burning it. Supply fresh soil in the place of that removed.

Diseased Celery (E. H.).—The Celery stalks are eaten considerably in places by slugs, also affected by a sort of red rust or canker, which destroys the tissues, completely spoiling the Celery for use. Against the slugs we should use soot occasionally, as it will not only deter them, but act beneficially on the Celery, and perhaps strengthen it against the rust, which is caused by a fungus closely allied to the Parsnip mildew, *Peronospora nivea*. Its mycelium lives inside the tissues of the Celery stalks, at first causing the part affected to assume a yellowish colour, which soon passes into brown, the irregular spots or streaks running up or down similar to the "tracks" of the Potato fungus in an affected tuber. The rust sooner or later causes the adjoining tissues to decay, and the Celery becomes putrid in a way similar with Potatoes. In dry weather,

however, the affected parts do not decay, but simply remain brown, and even in wet periods certain parts so remain, the fungus being in a semi-resting state, or very slowly advancing in the tissues and extending rust-like areas. We do not consider the fungus passes over with the seed, not having found it in or on the seed vessels, but being very common on the leaves, stems, and roots of wild Umbelliferæ, may easily pass from these to cultivated crops of that order. We have found the best palliative in dressings of a peck each of air-slaked chalk lime and soot, and half a stone of common salt used per square rod over the whole ground shortly before planting the Celery or other umbelliferous crop. As Celery is grown in trenches, and the cultivation is high, we have used, in addition to the first dressing, occasional sprinklings over the plants of a mixture of equal parts air-slaked lime and soot, taking the proportions by measure, commencing with the plants in the pricked-out bed, and following after planting up to the first earthing, or even later, at intervals of a fortnight or thereabouts, using a small handful to about a yard of trench. The thing, however, is to disinfect the land, which will be best effected by a good dressing of lime. All the affected Celery should be burned, following at once with the lime, $1\frac{1}{2}$ cwt. per rod being a full dressing, merely slaking, applying hot, and pointing in lightly shortly afterwards.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. *Dessert Pears cannot be named in a hard green state.* (*Valgarth*).—1, Lord Suffield; 2, Cox's Pomona; 3, Possibly Manks Codlin; 4, rotten; 5 and 6, unknown and worthless. (*R. L.*).—1, Golden Spire; 2, Brabant Bellefleur; 3, Rosemary Russet; 4, Keswick Codlin. (*N. D.*).—The Pears are hard, undeveloped, and not in condition for naming. (*S. P.*).—The smaller Apple is Fearn's Pippin and the larger Ecklinville Seedling. (*S. F. C.*).—Apples: 1, Gloucestershire Costard; 2, Cox's Orange Pippin; 3, Worcester Pearmain. Pears: 1, Williams' Bon Chrétien; 2, Louise Bonne of Jersey; 3, Fondante d'Automne. (*J. J. T.*).—1, Northern Greening; 2, Worcester Pearmain, pale; 3, possibly pale fruits of Cox's Pomona. (*Finchley*).—All the specimens are immature, but possibly they are—A, Warner's King; B, Blenheim Pippin, small; C, pale, hard Worcester Pearmain; D, Small's Admirable; E, Winter Greening; F, Fearn's Pippin.

Names of Plants.—(*Mid-Sussex*)—*Acanthus mollis latifolius.* (*G. M.*).—1, Cocos Weddelliana; 2, Kentia Belmoreana; 3, Phoenix reclinata. (*T. C. R.*).—1, Allamanda Hendersoni; 2, Impatiens Hawkeri; 3, Asplenium flaccidum; 4, Adiantum capillus Veneris; 5, Woodwardia radicans; 6, Cheilanthes hirta (*Amateur*).—1, Rudbeckia nitida; 2, Berberis vulgaris; 3, Oxalis floribunda; 4, Lycium barbarum; 5, Helenium autumnale; 6, Colutea arborescens. (*H. F.*).—A good form of Lælia elegans.

COVENT GARDEN MARKET.—SEPT. 14TH.

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0 0	0 0	Mustard and Cress, punnet	0 2	0 4
Beans, $\frac{1}{2}$ sieve ...	0 0	0 0	Onions, bushel ...	3 6	4 0
Beet, Red, doz. ...	1 0	0 0	Parsley, doz. bnchs. ...	2 0	3 0
Carrots, bunch ...	0 3	0 4	Parsnips, doz. ...	1 0	0 0
Cauliflowers, doz. ...	2 0	3 0	Potatoes, cwt. ...	2 0	4 0
Celery, bundle ...	1 0	0 0	Salsafy, bundle ...	1 0	0 0
Coleworts, doz. bnchs. ...	2 0	4 0	Scorzoneria, bundle ...	1 6	0 0
Cucumbers, doz. ...	0 4	0 8	Seakale, basket ...	1 6	1 0
Endive, doz. ...	1 3	1 6	Shallots, lb. ...	0 3	0 0
Herbs, bunch ...	0 3	0 0	Spinach, pad ...	0 0	0 0
Leeks, bunch ...	0 2	0 0	Sprouts, $\frac{1}{2}$ sieve ...	1 6	1 9
Lettuce, doz. ...	1 3	0 0	Tomatoes, lb. ...	0 4	0 9
Mushrooms, lb. ...	0 6	8	Turnips, bunch ...	0 3	0 4

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6 0	to 36 0	Fuchsia ...	5 0	to 8 0
Aspidistra, doz. ...	18 0	36 0	Heliotrope, doz. ...	4 0	6 0
Aspidistra, specimen ...	5 0	10 6	Lilium Harrisii, doz. ...	12 0	18 0
Coleus, doz. ...	3 0	4 0	Lycopodiums, doz. ...	3 0	4 0
Dracæna, var., doz. ...	12 0	30 0	Marguerite Daisy, doz. ...	6 0	9 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	4 0	6 0
Erica various, doz. ...	12 0	24 0	Musk, doz. ...	2 0	6 0
Euonymus, var., doz. ...	6 0	18 0	Myrtles, doz. ...	6 0	9 0
Evergreens, var., doz. ...	4 0	18 0	Palms, in var., each ...	1 0	15 0
Ferns, var., doz. ...	4 0	18 0	„ specimens ...	21 0	63 0
„ small, 100 ...	4 0	8 0	Pelargoniums, scarlet, doz. ...	4 0	6 0
Ficus elastica, each ...	1 0	7 0	„ „ ...	8 0	10 0
Foliage plants, var., each	1 0	5 0			

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve ...	0 0	to 0 0	Grapes, lb. ...	1 6	to 3 0
Cobs ...	0 0	0 0	Lemons, case ...	11 0	14 0
Filberts, 100 lbs. ...	0 0	0 0	St. Michael's Pines, each	2 6	5 0
Gooseberries, $\frac{1}{2}$ sieve ...	1 6	2 0	Strawberries ...	1 6	3 0

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch ...	2 0	to 3 0	Maidenhair Fern, doz. bnchs. ...	4 0	to 8 0
Bouvardias, bunch ...	0 6	0 9	Marguerites, doz. bnchs. ...	1 6	2 6
Carnations, 12 blooms ...	1 0	3 0	Mignonette, doz. bnchs. ...	1 6	3 0
„ 12 bnchs. ...	4 0	8 0	Myosotis, doz. bnchs. ...	1 0	2 0
Chrysanthemums, per doz. ...	1 0	4 0	Orchids, var., doz. blooms	1 6	9 0
Eucharis, doz. ...	2 0	3 0	Pelargoniums, doz. bnchs. ...	3 0	6 0
Gardenias, doz. ...	1 0	2 0	Polyanthus, doz. bnchs. ...	1 0	1 6
Geranium, scarlet, doz. bnchs. ...	4 0	6 0	Pyrethrum, doz. bnchs. ...	1 0	1 3
Gladioli, per bunch ...	1 0	1 6	Roses (indoor), doz. ...	0 6	1 6
Iris doz. bnchs. ...	4 0	6 0	„ Red, doz. ...	0 3	0 6
Lapageria (white) ...	1 6	2 0	„ Tea, white, doz. ...	1 0	2 0
„ (red) ...	1 0	1 3	„ Yellow, doz. (Perles)	1 0	2 0
Lilium longiflorum, 12 blooms ...	4 0	5 0	„ Safrano (English) doz.	1 0	2 0
Lily of the Valley, 12 sprays	1 0	2 0	„ Pink, doz. ...	1 6	3 0
			Smilax, bunch ...	1 6	2 0



THE ULTIMATE END OF WHEAT.

As it is an absolute fact that man must have bread as his staple food, it is as well to consider how that bread is best produced—i.e., cheaply and abundantly. We might say the ultimate end of Wheat is flour, bran, sharps, and hen corn. Of hen corn we need not speak, except to say the less we find of it in the crop the better. Some years indeed it preponderates, and we fear this year we may see a good deal, as in many cases the Wheats finished too fast—became, in fact, small and pinched in the grain, like a night ripe Plum.

We have been long accustomed to hear of diseased roots, such as Turnips, Swedes, and Mangolds, and diseased tubers such as Potatoes; but possibly it has not come home to most of us to consider the Wheat plant as one liable to go very far wrong. It does not perish altogether at the roots, neither does it go into a soft mass of nauseousness as the Potatoes will, and yet it is liable to attacks of vegetable parasites. It is most necessary to have stiff healthy straw and a strong good plant, and these conditions only obtain where attention is paid to the introduction of new seed of good variety. To secure a good crop change of seed is of the greatest importance, and when the change is made it is well to consider the type and character of the new variety. The farmer wants the greatest number of quarters per acre, the miller wants a Wheat free from soft woolly texture, and rich in gluten and starch.

We have often complained much that our miller seems to prefer the hard, dry, and what we think flinty, foreign Wheats to our home grown. But the miller has to consider his customers and the appearance of the bread loaf when set on the table. Consumers have got so fanciful that they will take none but the whitest bread, which is nice in appearance and dry in texture. We have not, as a nation, been careful enough in this matter of selection. We looked with disfavour at the comparatively high price of new varieties, and we have been content to change seed corn with a neighbour who had it two or three years ago from the raiser.

Possibly our farming friend, too, has not been over-careful to keep this seed pure—it is cheap, and so we make it do. There are some very curious facts in relation to the corn crop which possibly are not generally known to the farmer at large. That they are facts have been amply proved by that great seed corn raiser, Major Hallett. He states, "No matter what quantity of seed sown, the number of ears of Wheat produced per acre is, in the absence of injurious circumstances, virtually the same—about $1\frac{1}{4}$ million; the different quantities

of seed having been sown, each under the best conditions of time and space."

There is another fact well worth noting, especially by those who are enterprising enough to try new and costly seed. More ears of Wheat can be produced from 1 peck of seed sown per acre in September than from 3 bushels sown in November. Here is a table compiled by Major Hallett, which is instructive reading.

DRILLED.				
	Quantity per acre.	Ears on square yard.	Ears on acre.	
October 11th	1 bushel	... 263	... 1,272,920	
October 11th	2 bushels	... 283	... 1,369,720	
End of October 11th	2 bushels	... 265	... 1,282,600	
November 3rd	3 bushels	... 269	... 1,301,960	
"	2 bushels	... 270	... 1,306,800	
Average.....		270	... 1,306,800	

PLANTED

September.— $\frac{1}{2}$ bushel in single grains, 9 inch by 9 inch. Ears on square yard, 276.

But it is not always possible to get corn in so early, some of us may say; still it would be possible to do rather more in that time than we do. At any rate, it is within our power to increase the ears of corn in size, and to produce at the same time a larger kernel.

One writer, a farmer of repute, says, "We do not allow our cereal crops chance to tiller as they should; we are all so frightened of missing our crop that we are inclined to pile on the seed corn." Like the man we once heard of, who, not understanding the nature of a drill, on some bad weak brashy land, put on far more seed than he could ever hope to see again.

This autumn at a neighbouring market town has been exhibited a single root of Wheat, from which sprung no less than 75 stems. This is not an isolated case. As far back as the time of Augustus Cæsar there is a record of a grain of Wheat producing 400 stems; and again, in the time of Nero, of one that produced 360 perfect stems; and to go to modern times, when the British Association held its meeting at Exeter in 1869 were exhibited a plant of Wheat 94 stems, one of Barley 110, and one of Oats 87 stems.

Now, as long as corn-growing lasts there will continue to be the greatest possible diversity of opinion as to the size of seed corn. Each man holds his own views very tenaciously, and probably knowing his own land he is perfectly justified in so doing.

There has been a great outcry of late that farmers were too apt to use only small inferior seed, selling all that was bold in berry. It was argued that the small grains did not contain sufficient nutriment to maintain the sprout till such times as, having got hold of the ground, it was perfectly independent of the kernel. This, in theory, is perfectly right, but like all theories, it does not apply to every condition of time and soil.

Let us see if we can make ourselves plain. In cases where the land is good, fairly strong, and ready to sow during the last week in September and up to October 21st, the fine bold Wheat is most desirable, and, as we said before, much less quantity need be drilled.

Take, again, light poor land that cannot conveniently be sown till November. Here it answers best to sow small seed for this reason: By November the natural food of larks is much exhausted, and a newly sown piece of Wheat is literally black with the little creatures; the land being light is not readily solidified, and we are bound in self-protection to put on a large quantity of seed, so that they may get their share and yet leave enough for a crop. The same applies to Potato land Wheat, which from the nature of things cannot be sown early. Then again, as we personally have good reason to know, in cold, wet, low land, should the autumn be a rainy one, the fine big grains of Wheat will swell and burst before germinating—the small seed obviates this difficulty. Our critics may say, and probably will, Why sow late? Why sow light land? and why not find some other crop for wet low bottoms? and why not "tent" larks off new sown Wheat?

We can only answer that we think it a poor way to go round difficulties without surmounting them, and that he cannot upset the natural course of tillage with impunity. All these lands are

capable of producing good crops under careful management, and as to the "tenting" question, the boy has yet to be born who can successfully combat the hungry and irrepressible lark.

WORK ON THE HOME FARM.

The hottest seven consecutive days within living memory is a fair description of the last week, and harvest, which was already making good progress, is practically completed. We cannot remember that we have ever got so much good corn home within one week as we have during the one just past. The work was so easy and straightforward there was never any doubt about the condition of the crops; no pulling over of stooks, no sorting out of green, undried stuff, or leaving back of rows near the hedge; nothing but solid, uninterrupted, and sustained hard work, and we see the result in an overflowing stackyard with every place filled, whilst still there is more to find room for.

During a long experience we have never before got all our corn in fine order for immediate threshing; we have large or small proportions, but never the whole of it.

It is to be hoped that English farmers, having secured their crops splendidly, will not take steps to flood their home markets, and thus unduly depress prices. We are advised that there is no fear of prices receding if the British farmer will exercise a little patience. One great point in favour of firmness in the prices of Wheat is that the English crop is in fine condition for storing, and merchants need have no fear of buying on the score of poor condition. Rakings are coming home nearly as good as the sheaves, and there can be little waste.

But it is little use getting the corn into stack if the stack tops are not made safe from possible heavy rain. The prudent farmer has a store of straw batts, wherewith to roughly roof the stacks of Barley or Oats, the permanent thatching being performed later as opportunity offers.

The drought is all in favour of the lambs, the growth of rank herbage having been checked the young animals which had shown signs of scour have quickly thrown off all unhealthy symptoms, and are doing well. There is now plenty of change for them on stubbles and grass, and as change with plenty of elbow room is the best thing for them they must do well.

A WETTING WANTED, AND WHERE TO FIND IT.

WHERE does your correspondent who writes about farming operations live? His statements as to rain (page 198) are so utterly at variance with our experience in the S. of England, that I should very much like to know where he hails from. I might take a train up, for the pleasure of getting wet through!—A COUNTRY VICAR.

[We will endeavour to indicate, with as much clearness as can be expected under the circumstances, the position of the oasis of the vicar's desire. To reach it would involve a rather long journey "down" as well as "up" by train, but the rendezvous would be found good for a thirsty man, abstainer or otherwise; and as he would, moreover, have navigable rivers on three sides of him—East, West, and North—it would not be difficult to get "wet through," even if he happened to arrive on a fine day. It is only necessary to trace these rivers on a map to find the locality in which our "correspondent lives" and farms, as well as writes, so well. The Vicar will find in another column that upwards of 3 $\frac{1}{2}$ inches of rain fell in Nottinghamshire during August, but our farmer does not live there. We hope this question is answered satisfactorily.]

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1898. September.		Barometer at 32°, and Sea Level	Hygrometer		Direc- tion of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Tempera- ture.		
			Dry.	Wet.			Max.	Min.	In Sun	On Grass	
		inchs.	deg.	deg.		deg.	deg.	deg.	deg.	inchs.	
Sunday	4	30.412	69.4	64.0	N.W.	63.8	82.2	57.8	107.2	52.5	—
Monday	5	30.344	64.6	62.7	S.E.	64.0	79.1	59.8	114.7	54.1	—
Tuesday	6	30.206	64.8	63.1	N.E.	64.7	79.9	62.1	113.1	61.9	—
Wednesday	7	30.078	64.2	62.9	E.	65.0	86.1	60.9	115.2	59.1	—
Thursday	8	30.028	73.8	67.2	N.E.	64.8	91.2	60.1	125.7	54.9	—
Friday	9	29.913	72.4	65.2	S.W.	65.3	86.0	60.4	122.1	54.8	—
Saturday	10	30.064	63.9	57.2	N.W.	65.7	76.3	57.4	116.3	52.2	—
		30.149	67.6	63.2		64.8	83.0	59.8	116.3	55.6	—

REMARKS.

4th.—Sunny throughout, but calm and rather close.
5th.—Fog and cloudy early; sunny from 10 A.M., and bright afternoon.
6th.—Fog and cloudy early; bright sun after 10 A.M.
7th.—More or less fog all morning, with the sun showing through; bright afternoon.
8th.—Cloudy early; bright and hot day, but pleasant breeze.
9th.—Almost cloudless throughout.
10th.—Almost cloudless, with pleasant breeze.
—A rainless and very hot week. The maximum temperature on 8th is the highest recorded in September in forty years, and during that period there is no other instance of three consecutive days with maximum temperature above 85°. The mean temperature of the week is 12° above the average, is higher than that of any other week this year, and the highest in any September week for more than fifteen years.—G. J. SYMONS.

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LEEDSI, MRS. LANGTRY, broad white petals, large white cup, edged canary yellow and much crinkled, a pretty Daffodil and very free, per 100 35/-, per doz. 5/6.
TRIANDRUS ALBUS ("Angel's Tears"), a gem on rockwork, pretty cream-coloured flowers, petals reflexed, per 100 8/6, per doz. 1/3.
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Journal of Horticulture.

THURSDAY, SEPTEMBER 22, 1898.

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YOUNG VERSUS OLD FRUIT TREES.

WITH some few exceptions, comparatively young fruit trees are much more profitable than large old trees. Those who favour the retention of ancient specimens will not probably agree with much that I am about to advance, and, as a matter of fact, I would not advise anyone to destroy trees, however old they may be, so long as they are doing good service. What, however, cannot be defended is the preserving of trees long since worn out. Large old trees with their stems, perhaps, covered with moss, and the branches furnished with abundance of weakly spurs, only a few of the stronger ones at the extremities producing fruit, are common enough in most districts, these occupying valuable wall space that might well be devoted to two or more healthy, young specimens of superior varieties. It is true old trees can be, so to speak, rejuvenated by judicious pruning of the tops and the relaying of many of the roots in fresh soil; but it is a laborious, slow, and expensive process which few gardeners are in a position to carry out. A wholesale clearance of such trees might not be altogether desirable, owners of garden walls not caring to see much blank space for a year or two.

Two ways out of this difficulty present themselves, both of which have their good points. Thus, if permission were given, or the desire expressed, that valueless trees of Pears, Plums, Cherries, Apricots, Peaches, and Nectarines should be replaced by young trees, their sites, after a thorough change of soil for roots had been made, could be occupied by young trained trees with cordons, two or three-branched, of all the kinds named interspersed between them. In this way the wall space would soon be utilised, and light crops, probably, be obtained either the first or second summer after planting. Personally, I should prefer allowing the trees at least one clear year for the production of wood and the formation of roots only, though if the work of planting were done well and early in the season, there is no reason why the cordons should not bear a few fruit during the summer following planting.

The other alternative lies in the direction of buying young trees, and planting these between old ones wherever there is space enough. After making one, two, or three seasons' growth these would transplant readily in the autumn just when the leaves were commencing to fall, and in this way worn-out old trees could be quickly replaced by young ones capable of bearing a crop of fruit the first summer after planting. There is nothing new in all this, especially to experienced gardeners; but owners of gardens do not, as a rule, look far ahead, and so long as a tree remains alive are content, overlooking the fact that Apricots, Peaches, Nectarines in particular, and on some soils Plums and Cherries, are liable to gumming and early collapse.

What more than anything else has suggested this article is the sight of so many old orchard trees in a half-dead state this season. Not merely are these to be met with in large numbers in the south-western counties, but they are equally conspicuous in the home counties. Latterly I have spent days wandering among old as well as new orchards in Essex and Surrey, and the contrast between the two classes of orchards is most marked. Many of the old trees are heavily cropped with small, worthless fruit and flagging badly by want of moisture at the roots. Not only are the crops of no value in numerous cases, but the trees are so badly crippled that it will surprise me if they produce saleable fruit for at least another two years. It may truthfully be urged that this is an exceptionally hot and dry summer, and has followed a comparatively dry winter and spring, the subsoil not having been sufficiently moistened for a long time past; also that there are other reasons why young trees should suffer less from drought than do the older ones.

The contrast, however, is altogether in favour of the youngsters, by which I mean trees from six to twelve years planted. Many of these are carrying grand crops of fruit not quite so large in size as last year, but heavy enough to sell readily at fairly good prices. The trees I am thinking about are now occupying fresh sites, and not planted either in the exact position previously occupied by a tree, or midway between old lines of trees; and the soil containing material that fruit trees delight in, there is less need to pass much water or crude sap through their system; result, a slower depletion of moisture from the earth accordingly.

Much might be, and in many cases, is, done towards sustaining the pristine vigour of the trees by surface cultivation, manuring, and judicious thinning-out of branches, but even this good attention has not met the case satisfactorily this season. Trees that meet each other all round, and curiously enough, when these happen to be of one particular variety of Apple or Pear, have failed badly in instances that have come under my notice. In various parts of the country Apple Warner's King has been a great success this season, but in a friend's orchard where there are several long rows, the trees touching each other, the crops are very light indeed, whereas isolated trees or any in mixture with other fruits are, or were, bearing grand crops. Those trees, in common with so many in other districts, are only prematurely old, and would have done better if allowed more room, or, better still, had they been mixed with other kinds and varieties of fruit.

At one time the fashion was, and probably still is in places, to plant large numbers of trees of one kind and variety together, and at first sight this seems to be a desirable arrangement. In reality it is quite the opposite. Fruit trees generally may abstract the same elements from the soil; the manures that suit Apple trees apparently suiting Pear and Plum trees equally well; but it is found in actual practice that Pears may be planted in succession to Apples, and *vice versa*, with a good prospect of success, always providing the planting is well done, where to follow Apples with Apples is a waste of money.

In order, therefore, to prevent fruit trees from becoming prematurely old, and from rapidly depreciating in value after a certain time, a more intelligent method of mixing should be adopted. Either Pears or Plums alternate well with Apples, the trees of the latter spreading more than those of Pears and Plums, and if all are 24 feet or so apart there is not much likelihood of crowding. Plant strong-growing

standard Apples 24 feet apart, and the time is not far distant when they will touch and weaken each other. This advice to alternate kinds of fruit trees is not novel, but is in opposition to an authority who states that it is a great convenience in after years to have each row a distinct variety of one kind of fruit, "and, of course, as many rows of one variety in succession as you please, not breaking the row by planting two or three sorts." There is no reason why all the trees of Apples, say, in one row, should not be of one variety, unless we take cognisance of the fact that varieties fertilise each other, but let them alternate with another kind or kinds of fruit differing in both top and, I think, root growth. If all Apples are planted in a cultivated, protected orchard, the least that can be done is to alternate standard trees on seedling or Crab stocks, with natural pyramids or free bushes on the English Paradise stock, neither the tops of the trees nor the roots interfering with each other for many years to come.

In planting in grass orchards where standards only are suitable, and Apples preferred as being the most reliable and profitable in any particular locality, I would advise alternating tall-growing with spreading varieties, and in any case to allow each tree abundance of room. Where the trees, as too often met with, are disposed not more than 24 feet apart, and often still more close together, they are not long in reaching each other, eventually losing many of their lower branches, and fruiting on the tops of the trees only. Orchard trees ought not to be less than 30 feet apart. In the old orchards we may find a few grand trees that have overgrown and practically killed the rest, and these seem capable of going on for ages, producing heavy crops of good fruit whenever the season is favourable. Abundance of room for the roots to forage in, and the trees to spread, staves off decrepit old age. We ought in all cases to respect old age, but with fruit trees, as with mankind, young blood, with all its vitality, is absolutely needed to "keep things going."—W. IGGULDEN.

SOME RESULTS OF THE DROUGHT.

THE season so far has been fraught with many troubles, the enumeration of which would take up more space than the Editor would care to grant. But gardeners as a class are in full sympathy one towards another, so the relation of a few of the untoward results of the long-absent and much-needed rain will be sure to enlist some recognition. The sections known to gardeners under the several headings of vegetables, fruit, Chrysanthemums, Dahlias, Roses, herbaceous and other border plants, all provide ample themes for comment. There are isolated districts, may be, where the rainfall has been more abundant than applies to the country generally, and the gardener so favoured scarcely realises the difference between his case and that of his neighbour outside the radius of the storm line.

A good water supply ought to be the first provision for every garden, and if this is not to be had locally, then thought should be directed towards a permanent supply from a source as near as circumstances permit. Difficulties, it is true, crop up often, and considerable ones, too, but they in many cases may be surmounted by steady resolution, and particularly when employers possess sufficient interest to allow such matters to be examined and explained. Very often a sufficiency of water to tide over a drought visitation may be stored on the place, if only tank room is provided. The initial cost, if needed, may be extended over a series of years, and the outlay would in the end be considered perfectly justifiable. A garden with a scanty store of water is practically at a standstill during such weather as we have experienced during the past summer, because when the greatest amount is necessary there is the least store to draw upon to meet it.

Perhaps the more serious aspect brought about by the drought is found in the vegetable and fruit gardens where the shortness of water is predominant. Vegetables of most kinds languish, and even flag badly when subject to the scorching sun, Celery perhaps more than any other; and there will be, unless rain comes speedily, a diminution in the size and quality of this winter crop. Potatoes on poor land supply a sample fairly well fitted for planting the ground another year; in allotments, which are rarely overdone with manure, this is particularly applicable. In richer garden land the crop is not nearly so heavy as usual, but the quality is, as might be expected, of the best.

Peas did remarkably well in the early summer, but sowings intended for the autumn lost their energy from lack of root and atmospheric moisture, and as mildew supervened these were brought to a premature end. The ground was heavily mulched, but without result so far as

an extension of crop was concerned. Although the flowers dropped from Runner Beans there has been sufficient for everyday use; dwarf sorts podded well, but were late. Cauliflowers were plentiful until the drought penetrated to the depth of their roots, when they ceased to be dependable. Turnips since the early sowings have done much better, though I never knew the flea so troublesome early in the year. It is on firm ground and north borders where the supply now is available. Lettuce absolutely refuses to grow, and Endive languishes by want of rain. The outcome of this is a small supply for present use, and if frost should set in early the prospect for the late autumn and early winter will be much worse, because late Cauliflowers and autumn Broccolis are backward, and it was difficult to get any sowings forwarded of Spinach and late Carrots. Savoys and Brussels Sprouts are equally late. Cabbage for spring use are waiting in the seed bed, and until rain comes there is no prospect of their being planted, ground being dry and hot to such a great depth, and water for them quite out of reach.

In the fruit garden Apples have been reduced quite one-half in many sorts by premature falling, and birds, wasps, and flies are destructive to these, as well as Pears and Plums. Pears are being sampled, almost every fruit of some of the varieties, by the wasps, rendering early gathering the only means of saving them, notwithstanding Scott's destroyer has been repeatedly used as a means of prevention, and bottles of sweetened beer placed within their reach. Peaches and Apricots, too, suffered badly on open walls, and they have, contrary to their usual custom, spoilt a good many indoor Peaches and Nectarines. Many nests have been destroyed within a large radius. I never remember in any previous year seeing such large-sized nests. Some were of the dimensions of a peck measure when dug out. Presumably the long continued and excessively dry summer has favoured them in this matter. Of hornets we have much fewer, only one nest being found and destroyed.

In the Chrysanthemum world, where water is short, an anxious time has been spent by those whose ambitions lead them to hope for rich trophies in the coming autumn. With such summer weather to ripen the wood, and a plentiful water supply, there should be a record show this year, that is, provided the future weather is favourable for their development.

The Rose specialist has had an equally anxious time for his flower, and taking the weather into account, the Roses of the past season have been remarkable. The heavy moisture-holding soil of the Midlands told favourably, and gave the growers on such land the advantage over those on that of a lighter description. With the variability of the seasons, the grower who scores this year may in another suffer a reverse, but there is little current consolation in this fact.

What applies to the Rose specialist may be said to repeat itself in the case of the Dahlia grower, both from an exhibition and private point of view. It was a matter of surprise to find such a wealth of handsome blooms staged. It may be said, however, that the majority of the blooms at the shows generally, are representations from nurseries more or less widely distributed, and the number of flowers staged by each individual exhibitor is only a small selection from a large area. Only in exceptional cases are Dahlias able to give that wealth of blossom common to the autumn season when labouring under such adverse conditions as that imposed on vegetation at the present time.

In the nursery and private ground small shrubs have a difficulty in making the advance one likes to see, and the case is much worse with large trees and shrubs replanted during the past winter and spring. Where watering can be done occasionally these may be kept moving, if only slowly, but the dead and withering shrubs to be seen give evidence only too plainly of the state of the ground in which they have had to eke out an existence. On the other hand, growth in established trees is in many instances even more vigorous than if the ground were in a more normal condition. This is more conspicuous in heavy ground. Herbaceous plants show a similar state of things; the delicate and surface rooting kinds are far from useful, while the strong and deep-rooting ones are perhaps as good as in any previous year, when conditions apparently were sometimes so much more favourable.

It is comparatively easy to understand the unsatisfactory state of things existing when the rainfall is brought to bear on the matter, and the seriousness of the situation can only be met by steady and, for some days, continuous rain. My record shows a loss of over 11 inches compared with last year up to the end of August, and the past fortnight has produced only one-hundredth part of an inch, which, with a rising barometer, does not give promise of better, but rather of failing results. The springs, too, are so low that they do not replenish themselves from day to day, and whatever weather may intervene, it must be late in winter ere water springs will attain their normal condition, or the soil about the trees' roots becomes well moistened.

The aspect of the case may be summed up in the large extension of labour in water carriage without any due proportion of benefit

derived from the long and protracted drought. It may do some good in begetting a thought for future contingencies by way of providing more adequate supplies of water, either by local storage or by conveyance from some distant reservoir, and if this is done it will not only be of temporary, but permanent benefit.—W. S., Wilts.



ROSES IN NEW ZEALAND.

THE following description as to the behaviour of some of the grand introductions of Messrs. Alex. Dickson & Sons, Co. Down, will be read with interest by English and foreign readers alike, coming as they do from a New Zealand gentleman who has given them a thorough trial.

MRS. W. J. GRANT.—Really superb, and is one of the best and most popular; very sweetly scented. I should describe the colour as a magenta pink, if I may be allowed the term, as it reminds one of the colour of *Bougainvillea glabra*, though darker. It is always in bloom.

TOM WOOD.—This is very fine and distinct in form, though a colour of which we have rather too many, like a dull Ulrich Brunner.

HELEN KELLER.—Very neat and beautiful in form is this Rose; colour a rose pink, a vast improvement on the old Madame Charles Crapelet.

ELLEN DREW.—Up to the present this is worthless in the country, Anna de Diesbach being the best of the colour, Reine du Midi following. Duchesse de Morny, of the same shade, was discarded twenty years ago.

MAVOURNEEN.—The first flowers after pruning are really fine, the rest being thin and flat; a drawback is its only blooming once during the season; colour delicate shade of flesh, outer petals marked or flaked with pinkish rose.

MARJORIE.—In every sense grand; the blending of colours is lovely; two-thirds of the flower is pure white, the centre a deep salmon flesh. I should say this Rose is better here than in England.

MURIEL GRAHAME.—Another exceedingly fine variety, of a pale creamy white colour. I like it better than The Bride. The latter opens a greenish white, while the former opens a creamy white, becoming beautifully flushed with rose on the backs of the petals. When fully expanded, as in Marie Van Houtte, to my mind it is the grandest sport yet obtained from Catherine Mermet, also stronger than the parent or its other sports.

KATHLEEN.—Not yet recovered from the voyage out; at present a H.T. of the colour of John Hopper, with little or no scent.

MRS. R. G. SHARMAN CRAWFORD.—Thoroughly first-class, a most taking shade of creamy flesh, deepening into almost a rosy pink on the edges of the petals. First season after arrival it was quite single, second year semi-double, third back to its true character.

MARCHIONESS OF DUFFERIN.—Very large and full, a finer Rose than Her Majesty for this climate, almost the same colour, but does not burn or turn off like the latter; very strong or vigorous.

MARCHIONESS OF DOWNSHIRE.—Almost on an equal with Mrs. J. Laing for merit; flowers somewhat similar in colour, though growth quite distinct; free flowering and vigorous.

MARCHIONESS OF LONDONDERRY.—A fine exhibition Rose if protected from sun and dew, of enormous size, almost exactly the same shade of colour as Souvenir de la Malmaison; in this climate very strong, stout and dwarf. A plant only gives a few flowers in spring, and does not make a second growth.

MARGARET DICKSON.—A beauty when pruned to well-ripened wood, of superb form, colour white with deep flesh centre; a strong grower, throwing up ten or a dozen stout thorny shoots some 6 feet in height. If pruned to these maiden shoots I find it rather thin; not a continuous bloomer. Worked on the Manetti it makes a grand standard for other varieties.

JEANNIE DICKSON.—A beautiful long bud when half open, fine for cutting. It is of the President Thiers or Victor Verdier class, and is the best of its kind, and requires cutting early in our warm climate or soon expands. It does not show the yellow zone at the base of petals; free.

EARL OF DUFFERIN.—A grand Rose in the autumn, of beautiful form and colour, uncertain in spring; too double to open, unless we have extra nice weather.

LADY HELEN STEWART.—Growth strong, but not good as yet here.—R. P. R.



SHEFFIELD CHRYSANTHEMUM SOCIETY.

THE September meeting was held in the Society's rooms on Wednesday evening, the 14th inst. Mr. John Haigh was elected Chairman. After the usual business had been attended to, Mr. John Hewitt ("Hallamshire Bee-keeper") the well-known apiarian, gave an address, the subject being "Bees and Bee-keeping." Mr. Hewitt, being as full of bee-lore as he likes his hives to be of honey, gave much information about the lives and habits of the honey bee, and their value to the fruit grower and gardener in fertilising the blossoms and setting of fruits and seeds. Mr. Hewitt is a wonderful manipulator of bees, and stated casually that if you frightened a hive of bees you might do almost anything with them with impunity. As several of the members appeared to have a number of grievances (ancient and modern) against bees, they were very anxious to know how to frighten them, in order to wipe out, without danger to themselves, a few old sores. However, as the replies given were not considered altogether satisfactory from an "amateur's" view, the bees are not at present in danger of being punished for past delinquencies. Many other questions were asked, and ably answered. The address was most interesting and instructive. Mr. Hewitt was awarded a vote of thanks for his kindness in giving the Society the benefit of his experience.

Cactus and decorative Dahlias were the exhibits for the month, and a large number of blooms were staged. In the professional section Messrs. S. Lomas, C. Scott, and J. Dixon secured prizes; and in the amateur section Messrs. G. Saynor, W. Carlton, and W. Willgoose also obtained the prizes. Mr. S. W. Seagrave of Gleadless Nursery was awarded a certificate of merit for a fine collection shown by him, not for competition, including a number of new Cactus varieties—Night, Eileen Palliser, Ethel, Clown, and several others. Amongst the Pompons Agate, Douglas, and Nellie Broomhead (called after the daughter of the Treasurer of the Society) were very good.—J. H. S.

CROPPING VINES.

WHEN is a Vine overcropped? This is a query which cannot be satisfactorily answered in terms which would be equally true in all instances, because so much depends upon the circumstances of each individual case. The old idea of considering that a pound of Grapes to a foot run of rod is as great a weight of fruit as a healthy Vine will perfect should by this time be exploded, because it is no uncommon occurrence to see Vines carrying double that weight of perfectly finished fruit per foot of rod, and to go on doing it year after year provided the feeding given is proportionate to the weight of crop. On the other hand, how often do we see Vines struggling on year after year producing only light crops and inferior Grapes, and no matter how scanty the crop may be in any particular year, the condition of affairs does not show much improvement the following one by reason of the partial "rest."

The truth about the matter is that when their roots are languishing in sour soil, and become destitute of fibre, Vines are incapable of producing good Grapes, no matter how light a crop they may carry; but with healthy vigorous Vines, having root fibres in abundance, it is almost impossible to define when they are overcropped. The amount of feeding which such Vines require to enable them to show their full capabilities is almost beyond comprehension, and it is through not feeding in proportion to the crop rather than through overcropping that badly coloured Grapes are so often seen. Many growers who produce Grapes of high quality dress their borders during winter with a little fresh turfy loam, and add a sprinkling of bonemeal, or a top-dressing of cow manure or horse droppings. Then during the growing season they water two or three times with liquid manure, and are content to give clear water at other waterings.

The results they obtain are satisfactory in a certain sense, as they act on the principle of cropping lightly and feeding moderately, but in many instances they could undoubtedly, by the aid of higher feeding, obtain far heavier crops of equally fine Grapes without in the least exhausting their Vines. In private places a light, well-finished, crop is generally considered satisfactory, but in commercial gardening a continuance of such practices would often "spell ruin." We must not, however, lose sight of the fact that the aim of the Grape growers in many private establishments, especially where exhibiting is practised, is somewhat different from that of the market grower. The former requires a good number of large, well-coloured bunches, the latter does

not want large bunches at all, those about a pound in weight are ideal ones for his purpose; and in connection with this it should be borne in mind that a vigorous Vine will perfect a greater weight of crop when the bunches are small than when they are large.

During what I suppose we must now term the past season, I have been experimenting in the direction of testing how great a weight of crop well-fed Vines would carry, and I must confess I am surprised at the result. I did not remove a single bunch from several Vines, and by the time colouring commenced the array of bunches looked so formidable that I felt considerable misgiving about the colouring process, as I had certainly never attempted to take so heavy a crop from Vines occupying the same amount of space before, but when I noticed how freely the roots were working upon the surface of the border, I fancied all would end well.

As soon as the Grapes had been thinned I began to water with liquid manure. This was given at alternate waterings right up to the time the Grapes were perfectly ripe, and whenever clear water was applied I first dressed the border with chemical manure; the Vines were therefore thoroughly fed at each watering, the result being that the berries swelled up to a large size and became perfectly black, even in several instances in which a single shoot carried two bunches.

Now let me turn for a few moments to another phase of the subject which is of vital importance in securing good finish with black Grapes. I refer to the matter of atmospheric moisture, and I am bold enough to assert that vast numbers of Grapes fail to colour well, not because they are too heavily cropped or insufficiently fed, but because a too arid atmosphere is maintained during the colouring period. The hackneyed advice given by the majority of writers is, "Maintain a dry warm atmosphere during the ripening stage." This has in hosts of instances been far too liberally interpreted, to the serious detriment of both Grapes and Vines. When Grapes are perfectly ripe it is of course necessary to maintain a dry atmosphere to keep them from decay, but until they are ripe pursuance of such a practice defeats the object in view.

Let us take a lesson from fruits which grow in the open air. Plums and Sloes invariably colour perfectly, and retain a dense bloom, although the weather may be wet at ripening time, but should it prove exceptionally dry the leaves become infested with insects, and the fruit does not get beyond a reddish tint. Again, black Grapes growing in the open air colour perfectly in September, when the nights are often cold and wet, and during a late season it is only the intense cold of frost which prevents their ripening. The plan I adopt, and strongly recommend to others, is to damp the houses just the same when the Grapes are colouring as during the growing season, up till the time that the berries are quite black, when the moisture may be gradually lessened till it is withheld entirely, except an occasional sprinkling to keep down dust. The ventilators should be closed at the afternoon damping until colouring has become general all over the bunches, then gradual reduction of air must take the place of closing entirely.

By following this course the foliage may be kept perfectly fresh and clean till the Grapes are ripe, and the art of colouring Grapes—about which there is often so much apparent mystery—be reduced to a matter of extreme simplicity.

Houses containing Madresfield Court, and a few other varieties liable to crack, must have a rather dry atmosphere maintained, and for this reason it is not good policy to plant these in a house with Black Hamburgh, but Foster's Seedling, Buckland Sweetwater, and Madresfield are a trio which succeed admirably together.—H. D.

A NEW GRAPE—DIAMOND JUBILEE.

MESSRS. D. & W. BUCHANAN, Forth Vineyard, Kippen, by Stirling, exhibited at the show held in Edinburgh on September 14th and 15th, in connection with the Royal Caledonian Horticultural Society, a new seedling Grape, which met with the approval of all who saw it or had the chance of tasting it.

Being one of the latter fortunate ones, I have much pleasure in saying that this seedling Grape is a decided acquisition. Its flavour is good, flesh firm, berries large, and bunch compact. I consider it a great improvement on any late black Grape we have at present.

Messrs. Buchanan have named this seedling of theirs Diamond Jubilee, and I think that it is really worthy of being named in connection with that wonderful occasion.

The Grape was awarded a first-class certificate, and deservedly so. I believe Messrs. Buchanan intend to offer the Grape to the public in the course of a year or two, and when they do so I would advise all who wish a good late black Grape to go in for Diamond Jubilee.

I may perhaps be allowed to take this opportunity of congratulating the Royal Caledonian Horticultural Society on the splendid display at the show. Favoured with good weather, largely attended, and much admired, the exhibition was a decided success, and must have been very encouraging to the new Secretary, who seems to have "risen to the occasion," and who spared no efforts to make the show a success.—JOHN THOMSON, Clovenfords |

RUDBECKIA BICOLOR SUPERBA.

AMONGST the several interesting plants that were sent to the Drill Hall on Tuesday, September 6th, by Mr. W. Bain, gardener to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, was *Rudbeckia bicolor superba*, of which we give a representation in the woodcut, fig. 39. It is one of the handsomest plants that has been grown of late, and it is thoroughly well worthy of a place in every garden where border plants producing striking flowers suitable for cutting are appreciated. The form of the flower is shown well in the illustration, and the colour is bright yellow, with a deep velvety crimson centre round the brown cone or disc. Speaking of this plant Mr. Bain says, "I consider *Rudbeckia bicolor superba* one of the best annuals that has been introduced, or re-introduced, for some years. It looks light, and lasts well in a cut state. The plants grow to about 3 feet high, branching freely. It began flowering in July, and by all appearance will last until cut down by frost."

NOTES ON CELERY.

IN numerous instances the rows of Celery are strong and well-grown, only to be much damaged and disfigured by slugs. Where only just the heart is used it does not so much matter, but even these are sometimes reached by slugs, and none of us likes to see much mutilated Celery lifted.

After trying various systems of growing Celery, more especially as regards the size of trenches and the number of rows that can be grown in each, I have long since arrived at the conclusion that single rows are the most profitable in the end, as it is possible to grow nearly as many plants in that way as can be done when double lines are placed in a single trench; not only can the finest Celery be grown in single rows, but these can also be more easily earthed-up and better protected from slugs than can two or more rows in a trench. According to my experience heavy or moderately heavy lands can with very little trouble be made to produce Celery of the best quality, but unfortunately such soils are invariably the most infested with slugs. It is therefore in the process of earthing-up that the greatest judgment must be exercised and the utmost care taken, or what would have been very fine Celery will be completely marred quite early in the season.

In the first place, it is a mistake to be in too great a hurry to complete the earthing, this giving the slugs good shelter and plenty of time to spoil the stalks. When the plants are well advanced and growing strongly, enough soil should be broken down and well worked round the plants, this acting as a mulch, and also serving to prevent the outer leaves assuming a horizontal position. Two other earthings ought to be sufficient. If the second is given before the hearts are far advanced the mass of earth wedged against the stalks will effectually check their proper development. Better, therefore, to underdo rather than overdo it. The final earthing-up must be done before severe frosts are anticipated, and only the very latest ought to be left till early in November. The ridges enclosing the Celery should be finished neatly, so as to throw off as much water as possible, and if only the best portion of the leaves is unburied a moderately severe frost will do little harm.

Having briefly alluded to the manner of and time for earthing, it yet remains to be told how the Celery is to be kept clean—that is to say, but slightly disfigured by slugs. Where only a small number of plants are grown, the simplest plan for preserving and effectually blanching the stalks is to enclose each plant in two or more folds of strong brown paper. The paper requires to be fastened with strips of raffia. They must not be too tightly bound round the stalks, or the hearts will be unduly confined, and the plants should be earthed-up for the winter, the first soil being worked-in early, and a final earthing given after the plants are fully grown.

Few need to be told that Celery requires plenty of rich food and moisture at the roots, and deferring earthing-up admits of liquid manure or water being applied quite late in the season. In many instances the Celery is much too dry at the roots when the soil is placed round the stalks, and unless the autumn is exceptionally wet it is a long time before the rains benefit the crop. It is dryness at the roots that oftener than not is the cause of premature bolting or running to seed, few being aware or taking the trouble to ascertain that the soil underneath could possibly be so dry with so much earth on the top of it. Even in a wet season I have found it necessary to give the rows of Celery a good soaking of water prior to commencing earthing, and more had to be given at the second time.

Those who devote much ground to Celery culture cannot afford to coddle it, and must perforce adopt some rough and ready methods of checking the slugs. In some instances a liberal application of soot, or soot and lime, about the plants and among the soil, as it is worked round the Celery, helps to make the latter distasteful to the slugs and the quarters too hot for them. Soot especially is a good fertiliser, and though those who prepare the Celery for the table grumble at having it so black, it ought yet to be extensively used. On light soils a sprinkling of salt is almost a preventive of slugs and acts as a fertiliser, but it must not come into contact with the leaves.

The surest way of keeping Celery clean is to quite surround the stalks with fine burnt clayey soil or sifted ashes from coal fires. Both, in moderation, greatly improve heavy land, and the process of surrounding the Celery with them is not so tedious as might at first sight appear. It need not be used at the first earthing, and enough may be worked

in at the second time to quite answer the purpose for which it is added. The first proceeding should be to well gather the outer stalks together so as to effectually shut out any soil or rubbish from the hearts, the ties being made rather high up, or where they can be loosened again. A long board of any width may next be set on each side of and nearly close to the rows of Celery, and kept in position, if need be, with stakes fixed inside. Against the boards bank up the soil, and then fill in the space kept by the boards with either the burnt soil or ashes. The boards can then be drawn up, refixed, and a second layer of soil and other material added as before, or this may be delayed, if the Celery is backward, for another ten days. All should be finally banked over with soil. Thus



FIG. 39.—*RUDBECKIA BICOLOR SUPERBA*.

treated, the Celery is less liable to decay during a cold wet winter, and invariably turns out clean and good.

I ought perhaps to add it is of the greatest importance that the heart be always well protected with the outer stalks while the process of moulding up is going on, and this can be done either by lightly tying them up with raffia or strips of matting, which must be taken off again, or one person may hold the stalks together while others are chopping down and working in the soil.—G.

BEGONIA CORALLINA.—This is an old and very free growing variety that does admirably to train under the roof of a warm greenhouse or conservatory, where it hangs down its big panicles of flowers, rich red in colour, and forms, even in the winter, a very beautiful object. I have seen it so grown with fine effect in a warm house at Forde Abbey, Chard, by Mr. Crook; but I hardly expected to see it growing outdoors. However, such was my experience recently at Sandhurst Lodge, Berks, where a strong plant 3 feet in height blooming profusely, the colour of the flowers being singularly brilliant, was plunged in a pot in a warm spot in the pleasure grounds, and standing alone with a green background, and on soft green turf was a most attractive object. With the beautiful *Solanum jasminoides* its richly coloured flowers harmonise admirably.—A.



MASDEVALLIA MUSCOSA.

ALL the Masdevallias are interesting plants, and this uncommon species is especially so. It is only a small-growing plant with leaves about a couple of inches long, from the base of which spring the little slender flower scapes. These are covered with greyish mossy hairs, evidently intended by Nature to prevent the access of creeping insects to the sensitive flowers. Though very insignificant at the first glance, these are extremely interesting on account of the labellum being so sensitive that the least touch causes it to immediately close up to the column.

The colour of the sepals is a pale creamy yellow, the lip triangular, with a margin of deep chestnut. Like other species it likes a cool moist atmosphere all the year round, and the roots must not be burdened with much compost, peat fibre and sphagnum moss in equal proportions suiting it well. Add plenty of finely broken crocks and give ample drainage, stagnant moisture and sour compost being the worst possible conditions for the roots. Keep the foliage clear of insects and water freely while growth is active; not even in winter should the roots be really dry. Light spraying may be given in hot weather, but must be discontinued when dull or cold.

DENDROBIUM APHRODITE.

There are not many Dendrobes flowering in autumn, and this, though a small-flowering species, is one of the prettiest and most useful. It produces its blossoms not only upon the new wood, but also on the stems of one and two-year-old, a bright effect being the result. It likes a moderate amount of compost only, and fine plants may be grown in flat baskets or pans with about an inch of peat and moss, or even on blocks of Tree Fern stem. The growths are usually about 8 inches or 9 inches in length, with swollen nodes, very like those of *D. Findleyanum*. This circumstance led Dr. Lindley to name it *D. nodatum*, but the above name was given just before by Professor Reichenbach, and has therefore priority.

The flowers occur usually in pairs, are individually about 2 inches across; the sepals and petals are creamy white, the lip pale yellow, with a pair of deep maroon crimson blotches. The plants are not quite as constant in their habit of growth and rest as some, but with a little care may usually be kept at rest during winter, grown through the spring and summer, and the growth ripened by the waning sun. It must be treated as to moisture similar to others in the same section, and especially likes a light airy position.

ONCIDIUM PULVINATUM.

The blossoms of this species are not large individually, but the spikes are very elegant, and altogether it is one of the most useful. It is very easy of cultivation, growing freely, and easily propagated. All that is necessary is a compost of equal parts of peat fibre and sphagnum moss over good drainage, abundance of water while growing freely, and in winter just sufficient to keep the large fleshy leaves in good condition. The flowers are yellow, variously marked with brownish-red, and the spikes attain a height of about 6 feet or 7 feet, so that the small side branches are useful for cutting. It was introduced from Rio about 1838, and does well in an intermediate house.—H. R. R.

FRUIT JUDGING AT STIRLING.

AT the Stirling Horticultural Society Show, on Thursday, 1st September, there was a grievous blunder made in the class for four bunches of Grapes, two varieties. Two famous Grape growers and showmen acted as Judges, and mistook two bunches of Muscat Hamburgh for two of Madresfield Court, and all the consolation held out by them to the wronged exhibitor (after telling him, had his Grapes been named they would have been a close first) was that in the future it would be a lesson to him to name his fruit. If Grapes are to be judged by what is written on the boards, it is quite safe now to show Madresfield Court as Muscat Hamburgh. But I think when such men as those under notice can do the like of this, the quicker show committees form appeal courts the better. In this case the Grapes under notice were placed third. Was it not possible for the Judges to put this mistake right, seeing it was brought before their notice before it was an hour old? Or has an exhibitor to lie quietly down to a careless blunder made by two such famous Grape growers?—A SON OF THE ROCK.

EXTRAORDINARY POTATO CROPS.

THAT admirable writer of a past decade, "Single-handed," never began a trenchant article with a profounder truth than that which inaugurated one of his finest contributions to the *Journal*—"Men like big things." There is an irresistible fascination in bulk. We glory in big Grapes, big Chrysanthemums, big battles, big words. Perhaps the taste is a rather depraved one, certainly it is when the size has coarseness for its accompaniment; but it is an eminently natural one.

Records of big Potato crops never fail to charm. People who in the ordinary affairs of life are not particularly remarkable for mendacity become hopelessly immoral when they get on this subject. Yet I am informed on independent and impartial authority that the record which most people regard as the biggest "chestnut" of them all—namely, 6 cwt. from a pound of seed, credited to Mr. Pink of Faversham—is unquestionably accurate. After many inquiries on the subject in the district, all of which failed to elicit anything definite (as if local questioning on any conceivable subject ever did elicit anything except head-shaking!) I met with a horticulturist in the ancient town of Canterbury who knew (or professed to know) all about Pink's astonishing feat. Everything, he informed me, was done under the supervision of a special committee, which included a clergyman. The seed was weighed and prepared in their presence, the ground marked off, the planting done, and the lifting performed under their eyes. My informant did not appear to possess any powerful affection for Pink, and this is putting the state of affairs very mildly; but he believes that he fairly won the prize.

He likewise gave me some information on a point which I was very anxious to gain knowledge upon—namely, the method of preparing the seed. If he was right, "A. D." (page 206) is wrong. The latter says that the tubers were started in warmth, then shoots taken off, rooted as cuttings, and grown on in pots. I was for a long time under the same impression. But the Canterbury pilgrim ruled otherwise. Pink, he said, had a small instrument with which he carefully scopped out the eyes of the tubers, and these were then inserted singly. It was this plan he resorted to when he broke the record.

That the other plan is perfectly feasible I have proved. I have put tubers in cutting boxes nearly filled with leaf mould, and placed the boxes on a shelf in a warm greenhouse, carefully drawing off the sprouts when an inch long, pricking them off, hardening them, and putting back the tubers to break again. As each eye will push several sprouts it seems likely that anyone carefully following out this plan could, with a naturally prolific sort, beat the Eureka result. I believed I easily pulverised it in the experiment referred to, but the crop was so colossal that we lost count. I could give figures, but I abstain, for the world is so suspicious, and perhaps nobody (except the editorial staff) would believe me.

When all is said and done, the performance of a Kentish cottager is as meritorious as any. This excellent man, who lives at the village of Four Elms, near Edenbridge, grew 117 lbs. from 1 lb. of seed. As he had only the limited conveniences of the average cottager, he is entitled to high rank. The variety was Magnum Bonum, of which the decline is spoken of by another correspondent. I wish dividends "declined" in the same comforting ratio, cent. per cent., and a bit over.—W. PEA.

[There is perhaps even a limit to the credulity of the "editorial staff."]

DOYENNÉ DU COMICE PEAR.—This is without doubt the king of all Pears for those who have appreciative tastes and prefer soft melting flesh and the richest of flavour to the tasteless bulk of pulp found in a giant Pitmaston Duchess. Just recently I have had opportunities to notice this grand Pear under diverse conditions of culture, and the results are worthy of notice. When recently at St. James' Gardens, Malvern, Mr. Fielder drew my attention to some large, somewhat columnar, trees in pots in an orchard house fruiting very well. These trees were in 12-inch pots, one half being on the Pear stock, the other on the Quince. The unfitness of the Pear stock for pot culture was shown in a remarkable degree, for whilst the trees were rather the taller, they were less finely leaved, and the fruits, a moderate crop, were relatively small. On the Quince stock the product was far superior, the woody growths being stouter and more thickly set with foliage, which was larger, whilst the fruits must have been fully three times as large as were those on the other trees. At Madresfield Court on the same day I saw a moderate sized semi-pyramid tree of the same variety on the Quince growing in one of the quarters carrying a very heavy crop of nice half-sized fruits, but the tree growth was somewhat stunted. On a wall, however, was a tree horizontally trained on the Pear stock, carrying a heavy crop of very fine fruits literally perfect samples. How much I wished to have had snapshots at these respective trees, as showing pictorially how remarkable were the differences seen on the two stocks. Pears are generally a grand crop at Madresfield.—A. D.



WEATHER IN LONDON.—Both Friday and Saturday of last week brought intense heat, indeed on the latter day the thermometer registered 86° in the shade, with 123° in the sun. Fortunately Sunday came with a little rain, not sufficient to do good to crops, but enough to make the atmosphere much cooler and fresher, those conditions continuing over Monday and Tuesday. At the time of going to press on Wednesday it was dull but warm.

— **CRYSTAL PALACE FRUIT SHOW.**—The Royal Horticultural Society's great show of British grown fruit takes place at the Crystal Palace on Thursday, September 29th, and the two following days. Entries should reach the R.H.S. office, 117, Victoria Street, S.W., by September 24th. On each day of the Show, after 10 A.M., Fellows of the Society (on producing their tickets) are admitted to the Palace free. The schedule is framed on the same comprehensive scale as heretofore, with the addition of stipulated county or district competitions of Apples and Pears. For these twelve classes are provided, and the winners of the first and second prizes will be allowed third-class railway fares from their nearest stations to London. This section of the show is not open to nurserymen, but to gardeners and amateurs only.

— **ALLAMANDA NERIIFOLIA.**—The climbing species of Allamanda are well known and deservedly popular occupants of our stoves. Those with a bushy habit, however, which require no support from wires or stakes, do not appear to enjoy such universal popularity. Of the two or three species that can be grown in this way the one under notice is probably the best. It is a South American plant, with dark green leaves, and bears large quantities of flowers on short panicles from the points of the shoots. The flowers are deep yellow, with a number of longitudinal orange lines inside the tube. It can be grown and flowered well in pots, but does better if planted in a border. By planting out better growth is obtained, resulting in richer coloured foliage and flowers. When planted, too, the panicles produce more flowers, and as the flowers are opened two or three at once on each shoot, the flowering period is extended from May onwards for at least four months. Whether grown in pots or borders this plant will be found useful for the stove or intermediate house, as few plants taking up the same amount of room flower for a longer period.—W. D.

— **THE STRANGE TALE OF A TAIL.**—A "Traveller" sends the following enigmatical paragraph. Was it intended for a sporting paper, and got put in the wrong envelope? "The Shorn [? Quorn.—ED.] have just ended a lovely run. We started the fox, and ran him hard on scent. From the noise made by the pack we knew there was something out of the common in store, and there was a smile of mysterious complacency on the faces of one or two in the know. It was whispered by the Red Rider that Reynard was an entirely new species, with a tail of marvellous proportions, and expectation ran very high. The pack took us along in fine style, and we sighted him at last at Ghent. Phœbus! what a spectacle! It was not a case of one tail, but many—in fact, quite a fox-o'-nine-tails. We had hardly finished gasping when we lost him again, but two well-known hard riders had taken snap-shots. Still in full cry, we sighted him again at the Temple, and the hunt was clamorous with ejaculations of wonder, admiration, and amazement. Never was such a tail seen before. The huntsman solemnly declared, on a triumphant question from the Red Rider, that the fox was indeed new. Every man of us was mad with eagerness to get the brush; but he kept us on the run for four mortal months. Then an old hand joined in, and informed us—to our consternation—that he was not new at all, but, on the contrary, was a very old fox indeed. We gave up, dead beaten. Can it be true?" [Perhaps after all our correspondent is only making merry over a paragraph in *La Semaine Horticole*, founded on statements in the *Revue Horticole* and *Gardeners' Chronicle*, that *Acalypha Sanderi* is synonymous with *A. hispida* of Sir Joseph Hooker, and of which there is a coloured plate at Kew, dated 1812, and described by Burmann in his "Flora Indica" under the name of *A. caturus*, both these being presumably the *Cauda felis* of Rumphius. Be that as it may, it does not detract from the merit of this remarkable plant, which is new to present day cultivators; but the specific name "Sanderi" implies that it was obtained from seeds raised by the enterprising nurseryman who was fortunate in reintroducing this Cat's Tail *Acalypha* from New Guinea.]

— **UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.**—The annual dinner of this Society will take place at the Holborn Restaurant on Wednesday, October 5th, at 6.30 P.M. George Bunyard Esq., of Maidstone, has kindly consented to preside.

— **NEW MELON "ROYAL SOVEREIGN."**—We are informed that Messrs. Dickson, Brown, & Tait, Manchester, have secured the stock of this new Melon, raised by Mr. Thomas, The Royal Gardens, Windsor, and will distribute it in spring, 1899. It secured an "award of merit" from the Royal Horticultural Society in April, 1898, under the name of Lord E. Cavendish, and has been re-named Royal Sovereign. When this handsome variety was first exhibited and honoured we described it as the best Melon that had been seen at any of the Society's meetings in April. It may be expected to figure successfully, if well grown, at summer exhibitions.

— **COLONIAL WORK OF KEW.**—In the course of the debate in the House of Commons on August 2nd, the Secretary of State for the Colonies made the following reference to the services of Kew to the Colonies:—Let me express in passing, what I think is only due—my deep sense of obligation to the authorities at Kew for the assistance they have given me in regard to the West Indies and other colonies. I believe my predecessors would heartily join me in this recognition of the services of Kew. I do not think it is too much to say that at the present time there are several of our important colonies, which owe whatever prosperity they possess to the knowledge and experience of, and the assistance given by the authorities at Kew Gardens. Thousands of letters pass every year between the authorities at Kew and the Colonies, and they are able to place at the service of those colonies, not only the best advice and experience, but seeds and samples of economic plants capable of cultivation in the Colonies.—("Kew Bulletin.")

— **WAKEFIELD PAXTON SOCIETY.**—Programme of meetings for the third quarter—session 1898. Meetings are held at the Paxton Room, Woolpacks Hotel, Corn Market, Westgate, each Saturday evening at eight o'clock prompt. September 24th, "A Naturalist's Rambles in a Lakeland Valley," Mr. C. F. Archibald, Yorkshire College. October 1st, "The Future—A Geological Romance," Mr. A. E. Benney, Bradford; 8th, "Methods of Propagation," Mr. J. L. Pickard, Leeds; 15th, "The Apple and the Pear," Mr. T. Wilson, Silcoates Nursery; 22nd, "Perfumes and Odours," Mr. John Haigh, Sheffield; 29th, "The Potato," Mr. W. Allison, Walton. November 5th, "A Ramble through the Lake District," illustrated by lantern views, Mr. W. A. Clarke, The Nurseries, York; 12th, "Hardy Flowers, choice and interesting kinds"—with some specimens, Mr. John Wood, Kirkstall; 19th, the Chrysanthemum Exhibition, Essay by Mr. Moody, Croften; 26th, "Continental Reminiscences," illustrated by lantern views, Mr. Councillor F. H. Wigham.—T. H. MOUNTAIN, A. S. NICHOLSON, *Hon. Secs.*

— **AN ORCHID CRAZE IN THE EAST.**—The latest craze that has made its appearance in Japan is the Orchid craze; and if reports are true, the Tulip craze in Holland may well look to its laurels. According to the "Tokio Asahi" (Morning Day), a new variety of a small Orchid, jointly owned by the well-known gardener of Shitaya, Maru Shin, and by two others, is at present enjoying the highest reputation. It is called "Amakusa," for every rare variety has its own special name. Its leaves measure only 4 inches in length and 1½ inch in width, this variety being the only one now found in Japan. The leaves, only eleven in number, are whitish, with yellow-hued stripes widely marked, and the whole appearance exceedingly graceful. The fame of the "Amakusa" has sent all the circles of Orchid-hunters into a flutter. Numerous applications have been received by the triple owners asking them to part with even one leaf, for Orchids, as is well known, can be propagated by root separation. But all these applications have been courteously declined. The other day, says the "Asahi," a delegation representing ten villagers of Chitagori and Okari, came up to Tokio. They were all men stricken with the Orchid mania, and hearing of this rare variety, each of them subscribed 500 yen (a yen is 50 cents in United States currency), and one of them, the head man of the village, arrived on the important mission of purchasing a leaf. While the negotiations were in progress, the Kyoto Horticultural Company despatched its President also on the same errand. The owners of the precious Orchid conferred with each other, but decided not to accede to the offers made them, for they have in mind a similar case of another rare variety which several years ago brought the fabulous price of 10,000 yen per leaf. So both delegations were obliged to return home crestfallen; and the "Asahi" adds, "Even supposing that the owners might be persuaded to part with that Orchid at 5000 yen a leaf, that would bring them a sum of 55,000 yen, while if the price were to rise to 10,000 yen each, that amount would be doubled."—"Western Morning News.")

— MR. G. SPRINGTHORPE.—We learn that owing to Coombe Court, Kingston, having "changed hands, this excellent gardener is about to remove to Leicester, having taken the West Leigh Nursery, Fosse Road, in that town. Particulars are given in our advertising columns.

— GARDENING APPOINTMENTS.—Mr. G. W. Burrows, lately head gardener at Berwick House, Shrewsbury, has been appointed in a similar capacity to — Bellis, Esq., The Dell, King's Norton, Birmingham. Mr. William Wallace, late foreman at Clumber, Worksop, has been appointed head gardener to Hugh Colin Smith, Esq., Mount Clare, Roehampton.

— BEGONIA NORTHIANA (FRENCH).—This is a stocky grower in a small bed at Madresfield Court that is a very long way superior to the old Hampton Court variety now so common in gardens. Without doubt it is the most brilliantly flowered of all single Begonias for bedding purposes, and once it gets abundant the large singles will be no longer used. The habit is somewhat similar to that of the old Northiana, but is more stiff and erect, and the flowers are wide, brilliant in colour, and fully double the size. The variety was obtained from France, hence its affix to distinguish it from the ordinary Northiana.—D.

— DUTCH HORTICULTURAL AND BOTANICAL SOCIETY.—At a meeting of the Floral Committee, held on August 10th, 1898, first-class certificates were awarded to the Horticultural School of Wageningen for Canna hybrid O. F. Quintus. To Messrs. E. H. Krelage & Son of Haarlem for Chrysanthemum maximum Triumph, Dahlias (Cactus) Leonora, Regulus, and Ruby; Gloxinias hybrid grandiflora Cyclop and Goliath. To Mr. W. Van Veen of Leiden for Chrysanthemum maximum Triumph, and Dahlia (Cactus) Britannia; to Mr. K. Wezelenburg of Hazerswoude for Chrysanthemum maximum Triumph; to the Horticultural School of Frederiksoord for Heliotropium peruvianum fol. var.; to Messrs. Gratama & Co. of Hoogeveen for Rosa hybrid bifera Souvenir de Madame Joseph Méline, and Rosa indica fragrans Madame Yvonne Gravier; and to Mr. G. A. Van Rossem of Naarden for Rosa indica fragrans Auguste Waltine. Certificates of merit to the Horticultural School of Wageningen for Cannas hybrid Oranjevlag and Wageningen; to Mr. K. Wezelenburg of Hazerswoude for Centaurea montana rosea, and Chrysanthemum maximum filiferum; and to Mr. G. A. Van Rossem of Naarden for Rosa indica fragrans Mdle. Anna Chartron.

— GLOVER'S ISLAND.—The question of the purchase of this island by the Corporation of Richmond has been disposed of, that body declining to make the purchase. At a recent meeting the Mayor presiding, the Amenities Committee reported, with regard to the option of the purchase for £4000 of the island, in the Thames beneath Richmond Hill, which the Mayor, acting as agent for the vendor, had secured for the town, the Committee reported that only £50 had as yet been secured in public subscriptions towards the scheme. In view of the fact that the assessment of the island was at the yearly value of £18 only, that it had been purchased twenty-four years ago for £72, that it was extremely unlikely to be bought for the purposes of an advertisement station or for any of the other objectionable purposes mentioned in the advertisement, they recommended the Council not to accept the offer. The Committee further declared that they felt that public opinion would condemn in the strongest manner any proposal to injure the world-renowned view of which Glover's Island formed a part. The recommendation of the Committee was unanimously accepted.

— SHRUBS BENEATH TREES.—Frequent inquiries are made for a list of flowering shrubs that will thrive beneath old trees. The chief difficulty is in the matter of feeding material in the soil and not so much a question of shade, which is not expected to be really dense. Near the surface of the ground beneath old trees, there is a great network of roots, which must extract a very large amount of moisture and food. These roots, being more numerous and stronger, do not permit a newly planted shrub to get much of the necessities of life, and the new-comer is slowly starved to death. There are a number of plants that delight in shade, and if the soil be kept in condition, there should be no difficulty in growing them in such locations. The main attention should be in heavily mulching the ground above the roots with well-decayed manure, which will furnish both food and moisture. The following selection would prove very desirable and well adapted for such locations:—Ceanothus americanus, Azaleas, Rhododendrons, Pyrus japonica, Clethra alnifolia, Cornus mas, Itea virginica, Ligustrum vulgare, Pavia parviflora, Berberis Thunbergi, Spiraea Bumalda, Laurus Benzoin, Hamamelis virginica, Mahonias, Kalmias, Hypericums, Diervilla trifida. Many additions could be well made to this list.—("Meehan's Monthly.")

— DEFLECTED PEACH TRELLISES.—In the various lean-to Peach houses at St. James, Malvern, the front trellises are at the upper part so deflected downwards that the trees on the back wall obtain a full exposure to sunlight, hence they make good ripened wood and fruit from bottom to top. Mr. Fielder states that this deflection of the upper portion of the semicircular front trellises gave fully 2 feet more of complete exposure of the back wall trees to the light over what could be obtained if the trellises were kept up at the tops in the customary form. There was just the same wired area for the trees, and it was found that they ripened the wood and fruited quite as well as if the wires were not so deflected. That is a matter of some interest, especially where it is desired to have trees on back walls in good fruiting condition. Even if but a few score more of fruits are obtained from them much is gained.—D.

— THE POTATO DISEASE.—Generally the assurance is given that the Potato fungus is this season practically non-existent. I do not think it is wise to be too sanguine on that head. I saw recently in a garden, the soil of which is light and sandy, but highly enriched with manure, that many very fine tubers were after a few days lifted sadly diseased. That may, however, have been materially due first to the strong dressing of manure applied, and second to the shallow covering of very porous soil over the tubers. I have not lifted any of those stocks under my control in various places yet; but I have no reason to assume, judging by the general appearance of the tops, that disease is with them materially prevalent. Passing through Oxfordshire and Worcestershire recently, I noticed great breadths of Potatoes green as grass, yet in the middle of September.—WANDERER.

— THE FLORA OF CHINA.—It is satisfactory to be able to announce that the enumeration of Chinese plants (in the Journal of the Linnean Society) is near completion in its original form; but a long time must elapse before the enormous accumulation of additional material can be worked out. Dr. A. Henry has recently presented a further collection of some 2500 numbers, which, he estimates, contains about 2000 species. This collection is from Eastern Yunnan, and it has been roughly classified and some of the more striking novelties taken out for early publication in Hooker's "Icones Plantarum." The novelties are numerous, but no distinct or obviously new generic type was detected in the sorting. Messrs. Bourne, Carles, Ford, and Hancock, and other correspondents, have sent smaller, though not less interesting, collections.—("Kew Bulletin.")

— NON-ROTATION IN CROPPING.—How from time to time our preconceived notions respecting the proper rotation of crops get knocked on the head! But then what is permissible to the gardener with his deep cultivation must not be sanctioned to the gardener whose crops have perhaps not more than a depth of 9 to 10 inches of soil to revel in. When recently at Sandhurst Lodge I observed several rows of Scarlet Runner Beans, luxuriant in growth and podded profusely; also beside them the finest bed of Marrows I have seen anywhere. Remarking on the excellence of these crops to Mr. Townsend, he replied that these same crops had been grown on the very self-same soil and in exactly the same places for over ten successive years. I am reminded, too, that Mr. T. Bowerman at Hackwood produces his superb exhibition Onion bulbs on exactly the same piece of ground yearly. It is the trick of deep cultivation every winter that does the business.—A. D.

— HOSPITAL FLOWER SHOW.—For the fifteenth year in succession the Committee of the Crabbs Cross and Redditch Hospital Show have met with the encouragement their efforts deserve. On Saturday 10th inst., this popular show was favoured with weather just suitable for an outdoor event, and if the attendance was not quite up to that of previous years the deficiency was more than made up by extra receipts from the sale of exhibits. In the three departments—fruit, flowers, and vegetables—the exhibits were as numerous as ever, and while there were some beautiful floral displays the productions of the soil were excellent for quality and quantity, the samples of a great variety of Potatoes being remarkably good. Leeks and Carrots also attracted considerable notice. In the tent where the vegetables were arranged there was a combination of curiosities which, judging from the number of eager listeners that crowded round the gentleman who brought these articles, plainly showed that it was a most attractive item in the exhibition. There were birds' nests which had been built in the most unlikely things and places, wasps' nests where the workers could be seen actively engaged in their homes; the various processes of honey-making were also to be seen, the habits of birds, wasps, and bees being explained by Mr. James Hiam of the Wren's Nest, Astwood Bank, who seemed as happy in handling wasps as a child would be in eating honey, and a variety of questions were put and answered in Mr. Hiam's genial way. The number of exhibitors was very great.

OUTDOOR FIG CULTURE.

ACCORDING to Pliny the Fig was largely cultivated by the Romans, and there is reason to believe that they brought the Fig into Britain, cultivating it for the fruit in the Isle of Thanet. The variety grown is considered to have been *Reculver* or *Black Provence*. But if the Romans introduced the Fig into England the probability is that it subsequently disappeared for a time, as Cardinal Pole is said to have brought several Fig trees from Italy in 1525, and planted them in the Archbishop's Palace gardens at Lambeth, where they became subjects of history.

In Britain the Fig tree is sometimes killed to the ground by severe frosts, but becomes re-established by the production of suckers from the roots. In this sense only can it be termed hardy in this country, for even in some favoured localities, as regards soil and climatic conditions, the points of the young shoots are liable to be injured, and sometimes destroyed, in less severe winters. In Sussex, and other mild districts along the South Coast, however, the tree is hardy as a standard, but it does not generally succeed as such further inland. The most northerly situated trees I have seen thriving as standards were in Hertfordshire, on gravelly loam over chalk, and at an elevation of 365 to 400 feet above sea level. The situation was well sheltered by shrubberies and buildings on the east, north, and west sides, otherwise open, and exposed fully to sunlight and air. In very severe winters only were the shoots injured by frost, and in most seasons the trees produced full crops of well-ripened fruit during September.

The generally necessary situation for successful Fig culture is a wall with a south-south-east or south-west aspect, but even in such positions the shoots are liable to be injured in severe winters, and during very intense frosts killed to the ground when unprotected. In localities as far north as Redcar in Yorkshire, and within the influence of the sea, the Fig is quite as hardy as in the midland counties, the saline breezes from the ocean exercising, perhaps, a hardening influence on the growth, as well as the climate being milder in the winter months than further inland. At 750 feet above sea level, in Denbighshire, North Wales, and, of course, many miles from the Irish Sea, I have found Fig trees crop heavily year by year on the south walls of buildings, and both where the soil was a light gravelly loam over gravel and a stiff strong loam incumbent on limestone.

Numerous other exceptional cases of successful outdoor Fig culture might be quoted, but sufficient has been given as a prelude to the many general failures in cultivating the Fig for its fruit outdoors in Britain. It would be needless to give quotations, as there are certainly more barren than fruitful Fig trees in evidence throughout the country, especially on garden walls. This cannot be referred to defective climatic conditions, as the trees not only grow well and produce abundance of leaves, but are quite healthy, and pass the rigours of ordinary winters unscathed, even where unprotected. But, as a correspondent says, "wood and foliage are not all one requires from a Fig tree."

The Fig tree has handsome leaves, and as a bush or low tree, one of the noblest for a town garden. It succeeds in the open, and under favourable conditions produces fruit abundantly, either as a bush or standard. The conditions of success are places where the summers are hot, the soil firm, and containing a large proportion of shattered stones, either calcareous or siliceous, while sharp frosts are of rare occurrence. This confines the culture for fruit to the situations already named on the South coast, and a few places inland specially favoured by Nature or made so by Art. That there are more of the latter than generally supposed, the following may be taken as example.

The proprietor of a town garden, not very smoky, admired the Fig tree, *Ficus Carica*, for its foliage, and said to himself that the profit would be enhanced if the trees he saw in neighbouring gardens could, in similar examples in his, be so provided for as to be less liable to injury in severe winters, and in a general run of seasons produce useful fruit. The soil was naturally well drained, and the situation hot and open to the south. Nothing was done to the land whatever, but it was allowed to remain as hard as it had been made during building operations, with merely loosening the surface. The trees in the neighbouring gardens were noticed to make too much wood, long-jointed, soft, and sappy for fruit production, and non-resistive of frost, and the mere circumstance of a generous soil made hard resulted in fruitfulness.

But all soils are not naturally suited for the Fig, some, as in a garden not far from the one just referred to, being of a stubborn nature, and on a cold wet subsoil. In such case, and the situation being warm, draining must be carried out; then, instead of trenching and manuring, remove the ameliorated earth only, say a foot, and place in the excavation that depth of brickbats and mortar rubbish, roughest at bottom and finest at top, covering with at least 3 inches thickness of old mortar rubbish. On this place the soil, mixed with one-sixth of old mortar rubbish. This will form a mound, but flat, and on this the tree can be planted with a certainty of producing fruit where otherwise the trees yield nothing but wood and leaves.

The foregoing hints may be useful to those admiring the Fig for its foliage, and would like the tree all the better if it produced fruit, even in the limited area of a town garden. The trees are then as tractable as Gooseberry bushes, can be lifted as required to restrain any undue exuberance, are readily fed by manuring on the surface, and in winter can have the shoots tied together and protected from severe frosts. I do not know how the early varieties would answer in this way, my experience being confined to *Brown Turkey*, which has very handsome foliage, and produces abundance of large, handsome, wholesome fruit under favourable conditions of soil and climate in the open in England.

TREES.—The trees are raised in various ways—the best from cuttings of short-jointed growths of the previous year, from 6 to 9 inches in length, and if with a heel all the better. All the buds on the part to be inserted in the soil must be extracted, and the cuttings affixed firmly in small pots of gritty soil; they root freely either with or without heat, and soon form good plants. To form bushes the trees should be pinched at about 15 inches from the soil, and the growths from the stem rubbed off to about the height of a foot. It suffices to insure three shoots at the upper part, and if these are stopped at about every fifth leaf a well-formed head will be secured. Those intended for standards have the side shoots pinched, not rubbed off, the principle being to secure a stout stem quite as thick or thicker at the lower part than upper, instead of a weak low and strong upper part, as occurs when strong growth is made without side growths. At about 4 feet in height the head may be originated, and the side shoots gradually cut away. Dwarf trained trees are simply cut over at a foot from the ground, three growths encouraged, the others rubbed off, and the head formed fan-fashion.

The different forms of trees are supplied by nurserymen, and being grown under glass have thoroughly sound foundations, which is of consequence in enabling them to withstand severe frosts. These sometimes, as before stated, kill the trees to the ground. How about those with the buds extracted? That is a contingency I consider it worse than useless to provide against, for a tree that is everlastingly pushing suckers from the roots never bears much fruit, hence I prefer the clean stem, all the vigour in the branches, shoots, and fruit, and if such thing happens as the death of the tree, it is better to plant a fresh one than to incur endless trouble in restricting suckering propensities, and all for nothing but wood and leaves. If the trees are in pots or borders of very limited area the many-stemmed tree may be tolerable, as the very thing that prevents root extension restricts sucker formation, and sappy, long-jointed, unfruitful wood.

SOIL.—The Fig will grow and produce grand foliage in almost any soil, but it will not bear fruit when the soil is too rich and deficient in siliceous and calcareous matter. Like the Nettle and the Hop it loves soils that contain at least 85 per cent. of insoluble silicates and sand, represented by stones and gritty matter, not under 1½ per cent. of lime, nor less than 3½ per cent. of iron. All three plants thrive near buildings, whether occupied by man or beast, because they need the nitrate of lime which is surely formed where ammonia is given off, seized and converted by microbes into nitrate in the presence of lime. In practice, therefore, we imitate Nature, and secure the best crops of Figs outdoors by planting in a border composed of loam and brick and mortar rubbish by the side of a hard walk into which the roots can scarcely penetrate. Thus we find Fig trees producing grand crops of fruit against the walls of castle and palace, with gravel paths almost, if not quite, up to the stems; but on the garden wall and other positions, with an unlimited run for the roots of rich generous soil, the trees produce little beyond wood and leaves.

In no case need the border be wider than one-third the height of the wall; and if the bottom be formed of brick-and-mortar rubbish or chalk a foot thick, and on that 2 feet in depth of strong calcareous loam with flints, Figs, under favourable climatic conditions, will be produced abundantly. Outside the border must be a wall underground, not one of bricks and border, but a bank of rubble brought up from the same depth as the border bottom wide enough, if desired, for a path, or in any case not less than 2 feet wide. This cannot be too hard; brick-and-mortar rubbish rammed will form a barrier to the roots sideways whilst letting superfluous or necessary water for keeping moist to trickle either way. Good drainage—that is, a drain underneath the rubble—must be provided, with proper fall and outlet in case of a cold wet subsoil, and in some cases it may be necessary to concrete the bottom of the border.

Ordinarily it will suffice to use good loam with a liberal addition of old mortar rubbish and road scrapings, and to put the materials together compactly, always making sure of efficient drainage. Some soils are naturally suited to the growth of Figs, of which such as sandy, gravelly, calcareous loams. The evils to avoid are too rich, loose soil, and a wet substratum. The Fig will, however, grow on almost any kind of soil, providing the summer temperature is high enough to ripen the fruit and wood, and the winter temperature never so low as to prejudice the life of the tree.—G. ABBEY.

(To be continued.)

STONELEIGH ABBEY.

THERE can be little doubt that many readers of the *Journal of Horticulture* would see in the columns of the daily papers two or three weeks back extended references to the golden wedding anniversary of Lord Leigh of Stoneleigh Abbey, Kenilworth. They would also observe references to the gardens, grounds, and parks of this beautiful estate, but these were comparatively brief, owing to the importance of the festive occasion. To make up this deficiency it is now proposed to give a few paragraphs that it is hoped will not prove uninteresting to "Journalites." Much of the information given in the above references called attention to Lord Leigh's popularity as a land owner in Warwickshire, as well from the intense interest he displays in his tenantry, as for his kindness in throwing open his parks for the admission of all and sundry. A privilege of this nature is a great boon to the dwellers in Leamington, Coventry, Warwick, and Birmingham, of which the three first named are comparatively close to the parks of Stoneleigh.

Such is the high appreciation in which the privilege is held that the name of the "Hyde Park of the Midlands" has been applied to it, and it is by no means a misnomer. The immense parks, one in the immediate contiguity to the Abbey itself, and the other—reserved for the great herds of deer—cover many hundreds of acres, and both are undulating and beautifully wooded. To either of these free admission is granted, and visitors are at perfect liberty to roam at their own sweet will. They

the nearest fence; while now any number of visitors may come, and they are welcome to enjoy the attractions of wood, river, garden, and field around them. And of wood there is much to admire, both collectively and in individual specimens, for no part of "leafy Warwickshire" is better timbered than this. On every hand are groves and plantations of varying sizes, and containing different kinds of trees in enormous numbers. The banks of the Avon in places are most beautifully clad in verdure, and present many a picture that has no doubt delighted the artist and found work for his reproducing brush. Here and there the trees dip into the water, and as one stands on the banks the reflections are singularly attractive. The general effect of Stoneleigh cannot but impress every observer with a sense of its beauty and its diversity, as well as its stately grandeur.

Under the guidance of Mr. H. T. Martin, the gardener, we traversed what we will term the home park and the deer park in the cool of an August evening, passing from the Grecian Lodges on the one hand to Tantary on the other. Of all the trees noted in this pleasant walk the Beeches were perhaps the most conspicuous, though Silver Birches, Planes, Sycamores, and Sweet Chestnuts were little less inferior. The last named are abundant, and some of them splendidly formed. As gnarled, and in many instances decrepit specimens, the Oaks would be difficult to surpass. But to see grand Oaks so far as timber is concerned we have to go beyond the Grecian Lodges to an adjacent wood, where there are numbers handsome in their symmetry and strength. These are



Photo. by Mr. W. F. Kimberley,
Castle Studio, Kenilworth.

FIG. 40.—THE MONASTERY AT STONELEIGH.

may recline beneath the shade of aged Oaks or loll on the banks of the lovely Avon and watch the fish disport themselves in the clear waters. Glimpses that may be caught of the winding river through the trees from many vantage points show a variety of scenery that is as surprising as it is attractive. Four miles of the immortal river are on Lord Leigh's property, and these waters he keeps clean. The river runs a winding course, and wanderings in the parks and grounds are continually bringing it into view in the most unexpected quarters, and this alone renders Stoneleigh more than ordinarily interesting.

If it were wished to treat the Abbey from a historic aspect we should have to carry our readers back prior to the days of the Second Henry, for it was this monarch who handed it over to a body of Cistercian monks in 1154. From the "Pall Mall Magazine," in which the Hon. Miss Mary Leigh gave a most interesting account of Stoneleigh, we learn that the estate first came into the family in the reign of Bluff King Hal, when it was purchased by Sir Thomas Leigh. Those were troublous times, as were others in the time of Charles I., when the then owner, to quote Miss Leigh's words, "was reputed a giant; and it is told of him, though with what truth we know not, that on one occasion, finding a man riding a donkey trespassing within his park, he lifted up man and beast and threw them over the gate. This giant was created a baron by the First Charles."

How different must have been the ideas of the owners of Stoneleigh in those days from the opinions of the present Lord Leigh! Then, if trespassers were not prosecuted, they were thrown more or less gently over

not the only trees observable by the way, for there are Limes and Elms with others, but they serve the purpose of illustrating the variety in the parks alone. As we proceed towards Tantary we see herd after herd of deer here reposing, there quietly feeding, and yonder standing beneath the shade of some wide-spreading Beech or waving Bracken. It was a most enjoyable walk over the thick turf, and one which could be thoroughly appreciated after the sweltering heat of London's stuffy streets.

If the parks of Stoneleigh are attractive, the pleasure grounds and gardens are much more so, at any rate from a horticultural standpoint. In one portion of the former, known as The Grove, and which is reached by crossing the river and mounting a very steep incline, there are several beautiful peeps, one including the river, and the mansion with the park on the left and beyond, being particularly pleasing. On the summit of the walk is a summer house, whence there are numbers of charming pictures. The value of water and trees in a landscape were never better exemplified, and Nature has done what man never could do, though Art has added to the scene. The winding stream glistening amidst the greenery cannot fail to attract every observer. On the banks near the mansion flowering plants that appreciate the moisture have been utilised, as have foliage plants with similar proclivities. One ever hears of the beauty of the Avon at Stratford, but less often of its attractions at Stoneleigh, and yet they are worthy the best pen of the writer or cleverest brush of the painter. At all seasons it is lovely, but I should say more especially so in the spring and autumn months.

In front of the Abbey there is a formal flower garden, surrounded on

three sides by a stone wall, upon which at intervals are vases filled mainly with Henry Jacoby "Geraniums" and other similar homely plants. The beds also contain large numbers of Zonals, with Calceolarias of excellent quality—indeed, Mr. Martin's plants of the latter are amongst the finest I have seen. As he has told Journal readers, early planting and no coddling are the secrets of his success. The dwarf plants are many-branched, and the freedom with which they flower is little short of remarkable. Another old-fashioned Zonal that thrives splendidly, and is a great favourite, is John Gibbons. It is extensively grown, and gives the most satisfactory returns. There is a small Dutch garden even more formal than the one just referred to, but space cannot be given to a description thereof. The grass between the beds in both sections is thick and soft, as, indeed, is it throughout the pleasure gardens and grounds.

From the formal we may be said to pass to the informal garden, where beds and borders find such occupants as herbaceous and bulbous plants, with shrubs and trees. It is in this section that we pass through the Ivy bowers to what is termed the Mosshouse, both of which are delightfully cool on a warm day. These are very old indeed, as probably is the herbaceous garden itself. The number of plants here utilised is enormous, and they provide flowers without number for cutting purposes. There are beds of all shapes and sizes, as well as borders, and everywhere is seen the same profusion of blossoms and foliage. From the Ivy bowers and the Mosshouse the ground falls to the river, beyond which is the tree-clad rising ground and the grove previously mentioned. Coniferous

The gardens within the walls are extensive and very close to the older portion of the Abbey, which unfortunately does not show in the picture. As a matter of fact there are three distinct gardens containing fruits, vegetables, flowers, and houses for plants and fruits. Each is of considerable extent, but all available space is fully occupied with serviceable crops, as are portions outside the walls. This will give some idea of the requirements of the establishment, for there is a great amount of ground to cover. The fruits comprise all kinds, and they are grown in all the general forms adopted in training. Particularly striking are the cordon Gooseberries, which are splendidly grown. They produce immense crops of berries, and at the time this visit was paid they were roped from top to bottom. Considering their extraordinary fertility, it is surprising that far more cordon Gooseberries are not cultivated. Wall space is of course abundant, and the whole of it occupied with trained trees of Peaches, Nectarines, Apricots, Plums, Pears, and Cherries, and the keeping of them in proper order must entail a tremendous amount of labour. Small fruits were cropping heavily, and both these and the Apples, Pears and others were in capital condition.

It would not be an easy matter to say which of the vegetables looked best, but taking the season into consideration, we must give the palm to the Carrots. These in a large drift were grand, and by far the best I had seen this year. Parsnips close by were also most creditable, and Onions, superb. There were large bulbs as well as small ones, and all alike hard and ripening splendidly. Potatoes occupied a goodly amount



FIG. 41.—STONELEIGH ABBEY FROM THE AVON.

Photo. by Mr. W. F. Kimberley,
Castle Studio, Kenilworth.

trees are comparatively scarce at Stoneleigh, they not having proved very satisfactory, but a Cedrus deodara on the edge of the water looks very effective. Holly thrives excellently, and numerous examples of Golden, Silver, and the Hedgehog are admired. Cupressus Lawsoniana and Irish Yews are also fine in places, as may be seen in the view of the Abbey that is given in the illustration, fig. 41, which, with the one of the monastery, has been prepared from admirable photographs taken by Mr. W. F. Kimberley, Castle Studio, Kenilworth.

Having referred to the monastery (fig. 40) we may devote a few more words to it now ere turning to the other sections of the garden. With the picture before them readers will not require to be told that the structure is an ancient one, and I am of the opinion that few gardeners occupy such a house. It is most comfortable, too, though it lacks the superficial touches with which the up-to-date jerry builder loves to adorn the fruits of his labour. It is known also as the Old Gatehouse, and is in close contiguity to the old and modern portions of the Abbey. Reference is made to it in the article above quoted, in which it is said, "This Gatehouse may have been intended as a place of reception for guests, and an eleemosynary for distribution of alms. In an ancient wooden bench within the gateway (see left corner of the photograph) are ten curious circular holes, the original use of which is uncertain; but they were possibly destined in later warlike days to hold lances or other weapons." It was built by one Robert de Hockele, who died in 1349, "and over the gateway we notice the large stone escutcheon bearing the arms of Henry II., placed there by Robert in memory of the founder of Stoneleigh Abbey."

of space, as would naturally be expected, while other root crops and green vegetables were by no means neglected. The borders of herbaceous flowers in the three gardens made them much more attractive from an artistic point of view, though their greatest value no doubt lies with the vegetables and fruits that they contain. In the centre of one of the gardens is a round house, in which is located the gardener's office and a good fruit room. From a glance at the labels herein, it is easy to see that many of the best varieties of Apples and Pears find a home at Stoneleigh.

Within doors the stock of fruits comprises Grapes, Peaches, and Nectarines and Melons as the chief products, as well as Tomatoes and Cucumbers, though strictly the latter are vegetables. There are several houses devoted to those most important crops, and in all of them were excellent results of good culture to be seen. Grapes of all the leading varieties were bearing heavily and finishing splendidly—indeed, some had finished, and had been most satisfactory. Practically the same may be said of the Peaches and Nectarines, of which the clean, healthy trees were carrying big crops of well-developed luscious fruits. Strawberries in pots had done their share towards the maintenance of the long but ever necessary supply, several hundreds having been forced early in the year. Then we might go on about the Melons, the Tomatoes, and the Cucumbers, but when it is said that all were as good as need be wished, it becomes superfluous to say any more. Certainly the whole of them, with the plants, showed that unremitting attention by Mr. Martin and his assistants was given, or their condition would be very different from what it is at present.

The several plant houses are abundantly filled with plants of varied

kinds, and all of them are in the best of health. The Crotons, Dracænas, with other foliage and flowering kinds are numerous, and a speciality is made of those that are desirable for decorative purpose, both in pots and as cut flowers or foliage. Of course Ferns are largely grown in addition to scores that might be mentioned if it were advantageous to do so. But we must leave Stoneleigh Gardens in the capable hands of Mr. Martin, and in thanking him for his kindness commend to "Journalites," who journey that way, the beauties of the "Hyde Park of the Midlands."—H. J. WRIGHT.

NOTES ON BULBS.

THE present is the time of the year when it behoves every cultivator of flowers, either for indoor or outdoor decoration, to decide on a selection of bulbs which will provide sweet-scented and lovely blooms from late autumn to advanced spring. The provision of neat, well-flowered plants is a matter of considerable importance in many establishments, and though bulbs do not meet every demand in this respect, there is no season of the year when some species are not available. The same may be said with regard to cut blooms. Naturally, however, the spring is the most prolific season for bulbous plants, but to have them in flower at that time, as well as earlier, the bulbs must in most cases be procured in September and October either for potting or planting out.

The Roman Hyacinth is the most popular of any bulb for providing early white sweet-scented flowers. Its culture is comparatively easy. Good, firm, selected bulbs, if procured in September and placed five or six together in 5 or 6-inch pots, using a light mixture of soil, may be had in bloom easily by December—a period when such flowers are specially acceptable. A pot of well-flowered bulbs of Roman Hyacinths is one of the chastest ornaments for room or conservatory decoration. If wanted for cutting no flower is better adapted. So much are they appreciated that where the demand is large numbers of bulbs may be grown closely together in boxes for providing abundance of cut flowers. The bulbs do not resent being lifted from the boxes when coming into flower and potted. By this means evenly flowered specimens may be secured.

Freeseas make very attractive plants when in full bloom. The bulbs require to be potted early, and grown close to the glass in a cool frame, and previous to flowering in a similar position in a greenhouse. The bulbs are small. They may be placed an inch apart in pots varying in size from 4½ to 7 inches diameter. The pots do not need plunging like Hyacinths. The growth is slender, and invariably needs a little light support previous to the bulbs flowering. Freeseas should be allowed to grow and flower naturally, hard forcing not being conducive to their welfare.

Single Duc Van Thol Tulips are suitable for growing early for forcing. There is a brilliant variety of colour among them, including yellow, scarlet, crimson, rose and white. These are usually among the earliest Tulips to be seen in Covent Garden. They are also good for successional blooming. There is also a double Duc Van Thol, red and yellow, suitable for early flowering. Second early flowering Tulips are numerous, and comprise every possible colour and shade. Some of the best are Cottage Maid, white, tinted with pink, which is especially prominent when forced. Crimson Beauty is crimson scarlet, Fire King vivid scarlet, Montresor yellow, Chrysolora yellow, Joost Van Vondel white, Pottebakker in four varieties scarlet, striped, white and yellow.

The early Duc Van Thol Tulips will endure the rougher treatment of being grown in boxes and transferred to pots when the flowers show colour, but the choicer varieties ought to be grown solely in pots. Five and 6-inch pots are the best for Tulips, placing in four or five bulbs as they may accommodate. Plunge in ashes or cocoa-nut fibre until growth commences.

Whether for forcing early into bloom in pots and boxes, or to expand their flowers naturally at their own time in a greenhouse temperature, the Polyanthus type of Narcissus occupies a prominent position. The earliest is the Double Roman, closely followed by Paper-white, which is largely grown, because of the ease with which it may be forced into flower and the value of the cut blooms for decoration. As many bulbs as the pots will hold should be placed therein, 6-inch pots being the most useful. Boxes 3 inches deep may be employed to accommodate bulbs in quantity, for giving flowers simply for cutting. They ought to be portable in size, so that they are easily moved to positions near the glass after the bulbs have become well rooted under the plunging material, in which they are placed after boxing.

There are numerous other excellent varieties of Polyanthus Narcissi. They are, however, less adapted for strong forcing than for general culture. They form a good succession, and excellent flowering specimens in pots. The majority of the bulbs are large, some requir-

ing a 5 or 6-inch pot to themselves; but as a rule three bulbs may be placed in a 7-inch pot. These varieties invariably throw up strong foliage, and stout flower stems surmounted by large bunches of flowers. Some of the best are Bathurst, Grootvorst, Grand Monarque, Her Majesty, States General, White Pearl, and La Noblesse.

Among the Trumpet and other Daffodils there are many which may be grown to produce a good display in early spring. Ard-Righ or Irish King is an early Trumpet variety, that may be gently forced. Cernuus, the Spanish Daffodil, is also an early Trumpet variety responding to forcing. Belonging to the same section, and readily bearing judicious forcing, are Emperor, Empress, Golden Spur, Henry Irving, moschatus, and Mrs. Langtry. The last named has a broad white perianth, large white crown, edged with golden yellow. Princeps and Queen of Spain should also be included. The Hoop Petticoat Daffodil, both yellow and sulphur varieties, are favourites for pot culture. To produce the latest flowers, poeticus or Poet's Daffodil should be grown in quantity.

Included among the general selection the double English Daffodil ought to be largely grown in pots. Sir Watkin, the giant Welsh Daffodil, is popular on account of its size, being the largest of the chalice cup section.

Dutch Hyacinths begin to flower in February and continue through March and April if a portion are kept cool and potted later than the majority. The proper method to grow the best bulbs is to place one in a 5 or 6-inch pot. Smaller, and the least choice bulbs, may be placed several in one pot. There are some few varieties which respond to a little forcing better than others; but the main thing, to secure plants which will bloom before the usual time, is to pot them early in autumn, so that abundance of roots occupy the pots, producing strong growths. The single Dutch Hyacinths give the best display, but some of the double varieties are effective in pots, though seldom grown outdoors. Those who desire a good selection of named varieties for pot culture or exhibition may easily obtain them from the leading bulb catalogues. Selections of special colours of unnamed varieties give excellent results in pots for general decoration and for planting in masses outdoors in beds or borders. Beds of separate colours of Hyacinths, Tulips, and Daffodils ought to be freely planted.

Campernelle Jonquils are found very useful for blooming with the general display of bulbs. The bulbs are comparatively small, and may be grown in pots 4½ inches diameter, also in 5-inch pots, using as many bulbs as the pots will hold. A few pots might also be forced, the bulbs responding well to gentle heat. Jonquils ought to be planted freely in borders and spaces among shrubs, where they bloom abundantly and furnish useful flowers for cutting.

Pots of Crocuses in flower are extremely useful for decoration, and a number of the best named sorts are worthy of cultivation in this manner. For planting close to the edges of beds and borders Crocuses, either in separate colours or mixed, are admirably adapted. The bulbs should be placed close to the verges of beds, so that the soil may be dug without disturbing the Crocuses. In all parts of the garden and shrubbery, or by the side of woodland walks, wherever there is no necessity to stir the soil by digging, Crocuses may be planted in abundance, massing them together in fair-sized clumps. They can remain for years, and will grow and flower superbly each season.

Snowdrops and Winter Aconites may also be freely planted in borders and under trees, where they can remain undisturbed. Chionodoxa Lucilæ and Scilla sibirica ought also to be grown in clumps in borders, but they are equally adapted for pot culture; the white and blue flowers of the former, and the blue of the latter contrasting well with other flowering bulbs in the conservatory in spring. Larger pots than 5-inch need not be employed, or wide shallow pans may be filled with bulbs.

Flowering bulbs of Callas or Arum Lilies may also be procured and potted now. They will bloom in spring, and are indispensable for Easter decoration, the pure spathes being so imposing, whether cut and placed in vases with their own foliage, or the plants used for decoration in pots. Lilium Harrisii, the Bermuda or Easter Lily, forms a fine companion to the Calla. It may be had in bloom by Christmas if forced, but Easter is the period when it is more general. Good-sized bulbs should be procured, and planted singly in 7 or 8-inch pots. Place the bulbs half-way down in the pots, using loam, leaf soil, sand, and decayed manure. Use the compost moist, place the pots in a cool position, safe from frost, and water but little until growth appears.

To give beautiful white flowers in summer in the open borders Lilium candidum must be planted now. These bulbs commence growth early, but do not throw up flower stems until spring, and flower in July. The bulbs should be planted in clumps of several bulbs in good deep soil. When in flower they make an imposing display.—E. D. S.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL.—SEPTEMBER 20TH.

TUESDAY'S meeting at the Drill Hall was very fine, and a much brighter appearance was presented than has been the case of late. All the available space was fully occupied with meritorious contributions, and in places a little crowding had to be resorted to. The bulk of the exhibits comprised hardy flowers, Dahlias and Gladioli being particularly conspicuous. Roses, too, were beautiful, as were Mr. Hudson's *Acalypha Sanderi* and *Salvia splendens grandiflora*. Fruits were well and extensively staged, especially Apples, and Onions were remarkably fine.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); with Rev. W. Wilks, and Messrs. J. Cheal, A. H. Pearson, R. Fife, W. J. Empson, J. Smith, H. Balderson, G. Wythes, W. Bates, A. Dean, and J. Wright.

As appropriate to the occasion of Mr. Roupell's lecture on suburban fruit, many excellent collections of Apples and Pears, as well as other kinds of fruit grown in the suburbs of London, were arranged, and made a very fine, not to say a remarkable exhibition. We will first, however, refer to the exhibits placed on the table for examination. A basket of bearing plants and a box of fruit of *St. Joseph Strawberry*, evidently a continuous bearing variety, as this season's runners were flowering; fruits small and bright, but the reverse of high in quality. It was exhibited by Mr. J. Hudson, also by Messrs. Bunyard and Cannell (award of merit).

Mr. Arthur Bull, Cottenham, sent handsome fruits of Pond's Seedling Plum (vote of thanks). Mr. James Day, gardener to the Earl of Galloway, Galloway House, Garlieston, sent a dish of Summer Thorle Apple, a dessert variety of fair quality, much grown in Scotland (vote of thanks). Mr. John Green, Dereham, sent fruits of Up-to-Date Tomato, medium to small in size, and well coloured. To be tried at Chiswick. Mr. Ernest Holder, Bath, sent a seedling Damson. It much resembles the Worcester, and the fruits were very soft. No award was made. Messrs. James Veitch & Sons sent a dish of Late Devonian Peach, for which a first-class class certificate was awarded last year. They were excellently flavoured (vote of thanks).

Passing to the side tables, we first paused at Mrs. Wingfield's exhibit in the form of mountains of Onions. It was an extraordinary display of gigantic bulbs in most of the leading varieties, the equal of which has probably never been seen in the hall (silver Knightian medal).

Mr. G. Kelf, gardener to Mrs. Abbot, South Villa, Regent's Park, sent a highly meritorious collection of fruit—Grapes, Melons, Bananas, Plums, and other kinds (silver Knightian medal). Mr. H. Guyett, gardener to Mrs. Gabriel, Leigham Court, Streatham, sent a collection of splendid Apples and very good Grapes (silver Banksian medal). Messrs. J. Peed & Sons London, E.C., sent 100 dishes of fruit, chiefly Apples, but a few Pears and Grapes—an excellent exhibit (silver Knightian medal).

Messrs. J. Laing & Sons, Forest Hill, staged 100 dishes of Apples and Pears such as would be difficult to excel in mid-September, and the value of the collection was recognised by the award of a silver-gilt Knightian medal.

Messrs. Wm. Paul & Son, Waltham Cross, arranged a large and interesting exhibit of Apples and Pears in pots, excellently grown trees, also several dishes of fine fruit (silver-gilt Knightian medal). Mr. Miller, gardener to Lord Foley, Esher, contributed a meritorious collection of fruit, including fine Peaches, Apples, and Pears (silver Banksian medal). Mr. J. Robinson, gardener to W. Lawrence, Esq., Elsfeld House, Hollingbourne, arranged a collection of fruit and vegetables (silver Banksian medal).

Mr. J. Hudson sent from Gunnersbury House twelve varieties of fine Plums, also good Melons (silver Banksian medal). Upwards of eighty varieties of Apples were sent from Chiswick as the produce of young trees planted in 1896, and a cultural commendation was unanimously recommended for the Superintendent. F. G. Roberts, Esq., St. Saviour's, Jersey (Mr. R. J. Hamile, gardener) sent splendid Apples and highly coloured Pears (silver Banksian medal). Mr. W. Collins, The Gardens, Chios House, Clapham Park, exhibited twelve dishes of Apples and Pears (vote of thanks); and Mr. W. Roupell, Harvey Lodge, Streatham, sent a collection of various fruits, including very good Grapes, also fine Apples and Pears, as well as well-fruited Fig trees in pots (silver Knightian medal).

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with Messrs. R. Dean, E. Mawley, J. Hudson, J. Fraser, H. B. May, G. Stevens, W. Howe, T. Peed, C. Jeffries, J. Walker, T. W. Sanders, J. D. Pawle, H. J. Jones, G. Paul, and D. B. Crane.

Mr. H. B. May, Upper Edmonton, arranged a splendid assortment of Davallias, representing a very large number of species and varieties, all in excellent health (silver-gilt Banksian medal). Messrs. Paul & Son, Old Nurseries, Cheshunt, made up a handsome stand with Roses, tinted foliage, hardy Cyclamens, and herbaceous cut flowers. The pick of the Roses were Maman Cochet, W. A. Richardson, Madame de Watteville, Blanche Double de Courbert, Victor Hugo, Caroline Testout, Paul's Cheshunt Scarlet, Augustine Guinoisseau, and Madame Abel Chatenay. The same firm sent also Cactus and Pompon Dahlias (silver-gilt Flora medal). Mr. W. Wells, Earlswood, exhibited early flowering Chrysanthemums in variety. The flowers were of capital substance, and the colours bright (silver Banksian medal). Lady Freake, Fulwell Park, Twickenham, staged a collection of Cannas, representing several popular varieties (bronze Banksian medal). Mr. F. G. Foster, Brockhampton, exhibited an excellent assortment of Sweet Peas (silver Banksian medal).

Roses in variety were splendidly staged by Messrs. W. Paul & Son,

Waltham Cross. The collection included upwards of one hundred varieties, mainly Teas and Hybrid Teas. Most attractive were Caroline Testout, Madame de Watteville, Enchantress, Empress Alexandra of Russia, Marie Van Houtte, Francis Dubriul, Souvenir de Catherine Guillot, Madame Hoste, Marquise Litta, Maman Cochet, Mrs. W. J. Grant, Alfred Colomb, Madame Wagram, Souvenir de President Carnot, and Antoine Rivoire (silver-gilt Banksian medal). Mr. J. Hudson, gardener to Leopold de Rothschild, Esq., Gunnersbury House, made two beautiful displays, one with *Acalypha Sanderi*, and the other with *Salvia splendens grandiflora*. The plants in both cases were magnificently grown (silver Flora medal). Messrs. J. Veitch & Sons, Chelsea, made up a small group with several forms of *Hibiscus*, *Gynierium argenteum aureo-lineatis*, *Caryopteris mastacanthus*, *Bignonia grandiflora*, *Abelia rupestris*, and *Gynierium argenteum Rendatleri*.

Messrs. J. Burrell & Co. made a superb display with many scores of spikes of Gladioli, including, as well as several of the older favourites, a number of new varieties of great promise. The same firm sent also Pompon and Cactus Dahlias (silver Flora medal). Mr. J. H. Witty, Nunhead Cemetery, was represented by early flowering Chrysanthemums and Maidenhair Ferns, of which he made up a semicircular group (silver Banksian medal). Messrs. Keynes, Williams & Co., Salisbury, sent a few varieties of Cactus Dahlias of excellent quality. Messrs. J. Cheal & Sons, Crawley, exhibited a large group of Dahlias, including Cactus, Pompon, and single varieties. The flowers were of excellent quality, both substance and colour being fine. There were new as well as old varieties in considerable numbers, all the best known being represented (silver Flora medal).

Cactus Dahlias formed the major portion of the group from Mr. Chas. Turner, Slough. All the best varieties were finely staged (silver Banksian medal). Mr. T. S. Ware, Tottenham, made up a large bank with Dahlias, but they were rather too densely packed to show the best merit of the flowers. There were both Pompon and Cactus varieties (silver Banksian medal). Mr. S. Mortimer, Farnham, contributed a grand collection of Show, Fancy, and Cactus Dahlias. The blooms of each section were magnificent (silver Flora medal).

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, J. G. Fowler, H. Ballantine, H. J. Chapman, J. T. Gabriel, W. H. Young, H. Little, W. Cobb, J. Douglas, E. Hill, S. Courtauld, H. M. Pollett, T. W. Bond, and W. H. White.

For the period of the year Orchids were comparatively numerous and of excellent quality. Besides small exhibits of one or two plants each there were three charming groups. That from Messrs. J. Veitch and Sons, Ltd., Chelsea, was, as usual, very effective. Amongst the most striking plants were *Laelio-Cattleyas Nysa purpurea*, and *Nysa Hermione*; *Cattleyas labiata*, *Warszewiczii*, *Dowiana aurea*, and *Wendlandiana*; *Cypripediums Io grande*, *Ashburtoniae majus*, *Lawrenceanum*, T. B. Haywood, and *Harrisianum superbum*, with *Burlingtonia venusta*, *Dendrobium formosum*, *Oncidium Lanceanum*, *Miltonia spectabilis* Moreliana, *Oncidium macranthum*, *Dendrobium Phalaenopsis*, *Cœlogyne Veitchii*, and others (silver Flora medal). Mr. W. King, gardener to J. Colman, Esq., Gatton Park, Reigate, sent a variety of *Cattleya Hardyana*, named Mrs. Jeremiah Colman, which has handsome sepals and petals: and Messrs. J. W. Moore & Co., Rawdon, Leeds, a plant of *Vanda cœrulea*. Messrs. F. Sander & Co., St. Albans, sent a few Orchids with *Acalyphas* and *Pandanus Sanderi*.

Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, contributed *Oncidium trulliferum*, *Miltonia spectabilis*, *M. leucoglossa*, *M. Binoti*, *M. Moreliana*, *M. Clowesi*, and *Oncidium longipes*. Mr. T. W. Bond, gardener to C. L. N. Ingram, Esq., Godalming, exhibited *Laelio-Cattleya T. W. Bond*, which resulted from a cross between *Cattleya labiata* and *Laelia purpurata*. A small group was arranged by Messrs. H. Low & Co., Enfield. It was very bright, and included in good form *Vanda cœrulea*, *Cattleyas Harrisoni*, *velutina*, and *Gaskelliana*, *Laelio-Cattleyas splendens*, *intermedia flava*, and *Pallas*, with several *Cypripediums* (silver Banksian medal). Mr. F. Canham, gardener to C. H. Feiling, Esq., Southgate House, Southgate, had a very creditable exhibit of Orchids (silver Banksian medal).

CERTIFICATES AND AWARDS OF MERIT.

Acer Juhlkei variegata (Paul & Son).—A beautiful silver variegated variety. The leaves are of considerable size, and deeply cut (award of merit).

Althæa totus albus (Paul & Son).—This pure white form is very ornamental, and worthy of extended culture (award of merit).

Adiantum Faulkneri (T. Rochford).—A graceful Maidenhair, with large bright green fronds (award of merit).

Cattleya intertexta (J. Veitch & Sons).—The lip of this hybrid, which resulted from a cross between *C. Warneri* and *C. Mossiæ*, is superb. It has size, substance, and richness of colour. It is deep velvety crimson, with lighter fimbriated margins. The sepals and petals are soft rose purple (award of merit).

Chrysanthemum Louis Lemaire (W. Wells).—A floriferous early variety of a bronzy yellow colour. The flowers are of good size (award of merit).

Chrysanthemum May Manser (H. J. Jones).—This belongs to the reflexed section, and is a fine flower. The colour is white with a yellow centre (award of merit).

Dahlia Demon (M. V. Seale).—Pompon of good form; the colour is blackish crimson (award of merit).

Dahlia Snowflake (M. V. Seale).—Creamy white is the colour of this Pompon variety (award of merit).

Dahlia Distinction (M. V. Seale).—A shapely Pompon of the best type. The colour is dull purplish crimson (award of merit).

Dahlia Leslie Seale (M. V. Seale).—An effective single variety. The colour is velvety crimson in the centre, shading to slaty pink at the outer portion of the flower (award of merit).

Dahlia Antelope (J. Burrell & Co.).—A Cactus of good type, the colour is rich crimson scarlet (award of merit).

Dahlia Lucius (J. Burrell & Co.).—A glowing orange-scarlet Cactus that is of the best quality (award of merit).

Dahlia The Duke (Keynes, Williams & Co.).—A Pompon variety deep crimson in colour (award of merit).

Dahlia Watchman (Keynes, Williams & Co.).—A Fancy variety of fine quality; the colour is crimson and yellow (award of merit).

Dahlia William Neate (Keynes, Williams & Co.).—A finely shaped Show Dahlia; the colour is orange-red (award of merit).

Dahlia Progenitor (Keynes, Williams & Co.).—A grand crimson Cactus variety (award of merit).

Dahlia Countess of Lonsdale (Keynes, Williams & Co.).—A charming variety of the Cactus section; the colour is orange-yellow in the centre with purplish suffusions at the tips of the petals (award of merit).

Dahlia The Clown (Keynes, Williams & Co.).—A very distinct Cactus variety; the colour is bright brick-red with white tips (award of merit).

Dahlia Viscountess Sherbrooke (Keynes, Williams & Co.).—A finely built Cactus of bright orange-red colour (award of merit).

Dahlia Iris (C. Turner).—This belongs to the Pompon section; the colour is yellow with reddish purple tips (award of merit).

Dahlia Claribel (C. Turner).—A splendid Pompon, white with crimson tips and stripes (award of merit).

Dahlia David Johnson (G. Humphries).—A finely formed Show variety; the colour is pale buff flushed with purple at the tips (award of merit).

Dahlia Ranji (G. Humphries).—A Cactus, almost black in colour (award of merit).

Gynierium argenteum aureo-lineatis (J. Veitch & Sons).—A graceful growing plant, of which the varietal name clearly expresses the colour. The long leaves arch over beautifully (award of merit).

Lælia splendens (J. Veitch & Sons).—The parents of this hybrid were *L. crispa* and *L. purpurata*. The sepals and petals, both wavy in outline, are delicate blush. The lip is velvety maroon, with a pale rose margin and lemon hued side lobes. The throat is heavily veined crimson purple (award of merit).

Ligustrum Walkeri (Paul & Son).—This is a handsome plant that was much admired. The much-branched plant is about 2 feet high, the bright green leaflets being undulating, and about 1 inch in length by $\frac{3}{4}$ inch in width (first-class certificate).

Miltonia Binoti (W. H. White).—This is supposed to be a natural hybrid between *M. candida* and *M. Regnelli purpurea*. The lip is mauve, paling towards the front. The sepals and petals are dull straw with large brown blotches (award of merit).

Miltonia leucoglossa (W. H. White).—A charming form with a large pure white lip. The sepals and petals are greenish white with purple spots of considerable size (award of merit).

Pandanus Sanderi (F. Sander & Co.).—One of the handsomest plants in the hall. The long and broad strap-like leaves are deep green and gold, the latter being most abundant when the leaves are young (first-class certificate).

Populus Ontario variegata (J. Carter).—A golden variegated Poplar, of which some of the leaves are 9 inches in diameter. It is one of the finest Poplars we have seen, and should become exceedingly popular (award of merit).

REMINDERS.

I APPEND a trio of these in season, and hope to contribute from time to time short cultural notes, or to touch briefly on any topic appertaining to gardeners or gardening.

MIGNONETTE.

The present is a suitable time to sow seeds for spring flowering. The soil necessary for good culture is sound loam, to which add a sprinkling of sweet, well-decayed leaf mould or spent Mushroom-bed manure. Add a shovelful of old mortar rubble, and if the loam is not sandy some sharp sand completes the compost. Having got the pots well crocked, to insure proper drainage commence by using a little of the rougher mixture over the same, filling up in the usual manner, and making the whole quite firm, with a margin of an inch from the top of the pot. If the seeds are good, eight or ten will be sufficient for each 6-inch pot. Cover lightly, press neatly with the bottom of a flower pot, place in a cold frame, and sprinkle if at all dry, continuing until germination takes place, and of course onward, as Mignonette is extremely sensitive to drought at any time. I will deal with its further culture in due season. Three good varieties to grow are Giant, Machet, and Miles's Spiral.

CINERARIAS.

These should now be ready for their flowering pots—that is, in a general sense; it is bad policy to cramp this free-growing plant in small 60's. Prepare then two barrowloads and a half of turfy loam that has laid some time, and pull it in pieces roughly; one barrowload of leaf soil, run through a three-quarter inch sieve, the better to clear sticks and husks of nuts; a pailful of dry cow manure, run through the same sized riddle; and a 6-inch potful of crushed bones. I do not use sand unless the soil is very retentive, much preferring a couple of shovelfuls of old mortar refuse or plaster. This ought to prove a reliable mixture. It is most desirable that the crown of the plants when potting should be kept

well clear of the surface, and not buried. Pot firmly, as loose potting encourages soft flabby growth, and replace in a cold frame or house; shade from bright sunshine and dew the plants over for the first week or two rather than the usual mode of watering. As the pots become filled with roots syringing lightly with some clear diluted manure water from the cowyard is excellent practice, as it not only assists the growth, but is obnoxious to green fly, which pest must not be allowed to obtain a footing on any consideration. Admit abundance of air on every opportunity, taking into exception, of course, keen cutting winds, which are most injurious; the Cinerarias will bear any cool treatment short of absolute frost, which should be guarded against.

DROUGHT versus DEEP CULTIVATION.

The present dry time affords ample evidence of the necessity of deep cultivation, especially on shallow or gravelly soils, where vegetation at this juncture presents a deplorable appearance. Owing to the dry spring months one naturally would expect a more than average wet summer. Such, however, has been the contrary, and as one week followed another, with "still no rain," Peas, Beans, Cauliflowers, and other crops came in and were gone in very quick time; late crops failing altogether. The question is, Can any blame be attached to the cultivators? I have had to deal with the two mediums this summer, one trenched 2 feet and well manured, the other dug in the ordinary way and moderately manured. Of course this plainly demonstrates which of the two modes is the better, and I claim the former to be by far the more reliable, and it is adapted to wet as well as dry summers. Where the land is deeply cultivated vegetables and flowers have not suffered to anything like the extent, as the crops have on an adjacent plot ordinarily cultivated. By all means I would advocate trenching, and plenty of it. In the case of Peas, Beans (Runner or French), Dahlias, Callas, Chrysanthemums, or Sweet Peas, trenches as for Celery are invaluable, and save immense labour in watering. There are many more plants that would be benefited, but sufficient has been said to justify the plea of deeper cultivation in the future.—A MIDLAND GARDENER.

MEMORIES OF JUDGES AND JUDGING.

IT was a small village show. There were three of them, and they had just decided as to the first prize in the collections of vegetables, but had come to a pause over deciding which should be second and third. "Ah reckon," said Mr. Longman, gravely pointing to a clean neat basket of produce, "that little lot is an easy second." "Well," says Mr. Dapper, "I don't know; you see the Cabbages in the next exhibit are better." "Oh! have it which way you like," remarked Mr. Paunceby, "it's a near thing, and I don't mind what you do with 'em." After some discussion it was decided to resort to pointing, when they managed to make both equal. Then was there a great referring to the Committee and the Secretary, after which Mr. Dapper, finding no more prize money was forthcoming, made a vicious grab at the exhibitor's ticket on the "little lot," and, stabbing the figure 2 upon it, allowed me to "lead them on."

As showing how easy it is for a young man to be misled by first glances, I will relate a small incident. I was helping with an old tried hand at a large provincial, and in our section was included table decorations. As we approached one of the tables I allowed the remark to escape, "It looks an easy first here." "I fail to see it," said my coadjutor; and after the want of harmony, caused by a bright cerise lamp shade "killing" the soft colours of the fine blooms of *Cattleya labiata* beneath, had been pointed out, and I had seen the mass of *Cypripedium insigne* crushed into the centre, I was fain to admit things did not seem quite so clear. In the end the victory rested with an arrangement of leaves and berries—a veritable exposition of "autumn tints." Later in the day I met the defeated exhibitor; never shall I forget his manner. There was the proverbial "lurid glare" in his eye, and one could almost see it in his language; but let me pass softly away from those adjectives.

I could tell of a certain show where a journalist was so struck by the grandeur of a great London personage that he almost forgot his own duties in awe of that Judge's manner, and of how his fellows gave way to him, in not once raising their voices in opposition. It could also be told how in a certain city I once saw the Judges almost brushing the bloom from the berries of some late Grapes with their nasal appendages in their efforts to see, while an attendant shed light upon their combined wisdom with the magnificent luminosity of a lighted taper. What wonder if mistakes were made.

Upon another occasion I remarked casually to an exhibitor who had made a very good commencement with his group, "Going to win to-day?" "No," he placidly replied, pointing to the opposite side of the hall, "they always allow a parson's man ten points more than anybody else"—absurdly suggesting that the rev. gentlemen and Judges were simply dealing in "futures." On looking round after the prizes were awarded I found Mr. Placidity well beaten by a far greater number than ten points.

So one might go on, but as I write there comes before me the memory of a perfect September day when two gardeners started from home one morning early to judge the produce at the small show. A happy pair they were bowling along behind that stout grey cob. By narrow country roads, by the tall hillside, on whose top the busy women and children gathered the luscious Whortleberry, through verdured lanes where spring the slender spires of yellow Agrimony, with the gentle Harebell nodding in the breeze, and where the ribboned Hart's Tongue hung down the

mossy hanks and the luxuriant *Lastræa* sent forth his arches of lustrous greenery beneath the high-grown hedges; past great bushes of purpling Sloes and well-filled farmyards, where the delicate *Aspleniums* clung lovingly to the old stone walls. And so we come at last to the tents and the generous hospitality meted out to us; and could I not tell of that ride homeward in the evening by another route, over long wooded ravines, through the queer old villages, and past the "Smiling Mountain." But, alas! as I think of my fellow judge, I know that never again will that strong right hand grasp mine, for he lies still and silent beneath the flickering shadows of the trees he loved so well. - EX-SECRETARY.

HORTICULTURAL SHOWS.

ROYAL CALEDONIAN SHOW.

HELD as usual in the Waverley Market, Edinburgh, on Wednesday and Thursday last, this proved in many respects one of the most excellent shows held by the Society during the past few years. The feature of the exhibition, undoubtedly, was cut flowers, which were shown in vast quantities, though perhaps not, as a rule, rising to the highest quality. These and the fruit may fairly claim to have received the greatest amount of attention during two days of splendid weather. Groups of plants, mainly exhibited by nurserymen, were also of great merit.

The chief prize of the exhibition was that for the best and most tastefully decorated table of dessert fruit, 10 feet long by 4 feet 6 inches wide, the prizes being £7, £5, and £3 respectively. The number and kind of fruit was distinctly specified, as well as the maximum number of points allowed to each. Thus the maximum for a Pine Apple was 10, Grapes, black or white, 9, Melons, Nectarines, and Peaches 8, Apricots and Figs 7, all others 6. For decoration: Beauty of flowers and foliage, 10 points; harmony of colour, 10; tasteful arrangement, 10. Only Mr. Cairns, Balruddery Gardens, and Mr. Kirke, Norwood, Alloa, competed. It must be noted that the number of dishes allowed was sixteen, to make up which four dishes of Grapes were allowed (two black, two white); of all other kinds of fruit not more than two dishes. The points had not been published when we had to leave, but Mr. Cairns was deficient in fruit, the floral accessories, on the other hand, being much the better. The flowers used were mostly Orchids of the *Dendrobium Phalaenopsis* Schreoderianum type, but unfortunately in too lavish a manner. Mr. Kirke's arrangement was not more graceful, with the disadvantage of the flowers being commoner and less harmonious.

Mr. Cairns was again successful in the class for ten dishes of fruit, Mr. Smith, Oxenford Castle, being second. Mr. Day, Garlieston, was easily first for a collection of twelve dishes of hardy fruit, the several dishes being composed of not large but well coloured fruit. For twelve dishes of fruit grown in an orchard house, Mr. Besant, Castle Huntly, was first with a superior collection, Apples in particular being fine. For six bunches of Grapes, Mr. Lunt, Keir House, with unexceptional Muscat of Alexandria, two bunches, two fine Black Hamburgs and Alicante, was easily first among a large number of exhibitors. For four bunches of Grapes, Messrs. Murray & Son, Polmont, took first honours, followed by Mr. Lunt in the second place. Mr. Lunt was also first with two bunches as well as one bunch of Muscat of Alexandria, each of the greatest merit. The pair of clusters of Black Hamburg with which Mr. Menzies, Larbert, secured first in this class were superior in quality, and the same remark applies to the second and third stands. Among other Grapes were good Alicantes, Lady Downe's, and Buckland Sweetwater, but the greater part of the Grapes were slightly below the average.

Peaches and Nectarines, especially the latter, were fine, Mr. Lunt showing the best dish of the former, and Mr. Smith of the latter. Of Plums a large number of dishes was shown. The season, which has rightly been blamed for many deficiencies, required not to be appealed to in this case, as without exception they were all well shown. The first place for dessert varieties was secured by Mr. Williamson, Tarvit, and for culinary by Mr. Day.

Apples, on account of the number of varieties of single dishes for which prizes are offered, formed a large show of themselves. As a rule they were deficient in size, though the fruit was clean and good. This does not apply to the collection of twelve varieties shown by Mr. McLeod, Dover House, Roehampton, which were much superior to those of the other exhibitors. Mr. R. J. Hamil, Jersey, was second. For a collection grown in Scotland, Mr. Day, Garlieston, was first with small but well-coloured examples. About four dozen kinds were represented in single dishes. A similar series of prizes were offered for Pears. For twelve varieties Mr. Hamil was first, and for twelve sorts confined to Scotland Mr. Day was first.

In the plant classes the principal prize was offered for a circular table 12 feet across, and arranged with plants for effect. All the tables were overcrowded, Mr. Wood, Oswald Road, Edinburgh, being first; Mr. McIntyre, Darlington, second; and Mr. J. Cocker, The Chesters, Himshaugh, third. In the classes devoted to stove and greenhouse plants in flower none were of special merit, Mr. Mackay, Liberton, being first for four. Ferns graced one end of the hall, four exotic being particularly excellent, Mr. J. Cocker possessing the finest. The specimens with which Mr. Lunt was successful in the class for six foliage plants were fine. The same grower secured first place also for two Crotons. In addition to these were many examples of successful cultivation, ranging over a great variety of plants, among which *Liliums*, *Vallotas*, *Fuchsias*, and a large number of pretty table plants were conspicuous.

Among the cut flowers many were below the average. However, the

twelve blooms of Hollyhocks with which Mr. A. Oliver, Morpeth, gained first prize would be difficult to surpass. Many Dahlias in the various sections, a large number of Roses, Pansies, Gladioli, Asters, and *Chrysanthemum* blooms were also more or less well shown. Twelve bunches herbaceous were specially good.

Of vegetables the show generally was below the mark. The collection of sixteen varieties, the prize for which is £4, was secured by Mr. Harper, Perth, while for ten varieties Mr. Waldie, Dollar, was the successful exhibitor. Tomatoes themselves formed a large show, Mr. Galloway, Liberton, claiming the first prize for twelve.

In the few classes set apart for nurserymen the chief prize was for a table, 15 feet by 5 feet, artistically furnished with cut flowers of hardy plants grown in the open air. The number of bunches allowed was fifty, and Messrs. Cocker & Sons, Aberdeen, who were first, and Messrs. Harkness & Sons, Bedale, Yorks, who were second, took full advantage of the conditions under which they were allowed to stage, and the outcome was two specially grand exhibits of hardy plants. Messrs. Cocker's were more gracefully arranged than their runner-up; they were very little ahead. Messrs. Harkness secured first for thirty Gladioli. Roses were very largely shown; all were fresh and the colouring good, though only a few stands contained large blooms. Messrs. Hugh Dickson, Belfast, D. & W. Croll, Dundee, J. Cocker & Sons, Aberdeen, and Smith & Son, Stranraer, were the chief prizewinners.

Of produce not for competition the table of fruit sent by Mr. O. Thomas, Royal Gardens, Windsor, naturally attracted much attention. It included a large collection of Apples and Plums with many Pears, a few baskets of Grapes, Royal Sovereign and British Queen Melons, Bananas, Pine Apple, and a variety of small fruits. The introduction of flowers in vases amongst the fruit, and a number of *Nepenthes* standing high above the whole, with an edging of dry *Statice* flowers formed a pleasing exhibit. A gold medal marked the value the Council set upon this exhibit. Messrs. Veitch & Sons, Ltd., Chelsea, arranged a large circular table of the finest plants going in the trade. A gold medal was awarded in this case also. Messrs. Laird & Son, T. Methven and Son and John Downie & Co., all of Edinburgh, also had most meritorious groups of plants. Messrs. Dickson & Co., Waterloo Place, had a large table of plants, Grapes in fruit in pots, *Violas*, *Carnations*, and Sweet Peas in great numbers. Messrs. Wallace & Co., Colchester, received a silver medal for Lilies.

Mr. Jones, Lewisham, arranged on the floor an undulating group of foliage and flowers, for which a silver medal was awarded. Messrs. Thomson and Co., Ltd., Clovenfords, had a like award, and also Messrs. D. & W. Buchanan, Kippen, the latter for a pretty arrangement of Vine foliage, Ferns, and fruit in trumpet vases, with examples of splendid Grapes and Tomatoes on the table. Messrs. Dobbie & Co. showed Dahlias mainly; Mr. Forbes a variety of florists' flowers; Mr. Campbell Dahlias and *Carnations*; Messrs. Cocker & Co. a fine group of hardy flowers; Mr. Irvine, Jedburgh, wonderful spikes of *Pentstemons*. Other exhibitors included Messrs. Kerr, Dumfries; Cuthbertson and A. Lister, Rothesay; Grieve & Sons, Pilrig, and J. Smellie, Busby.

First-class certificates were awarded to Mr. Angus, Norwood, Aberdeen, for a double Sweet Pea; to Mr. Campbell, Blantyre, for "Mrs. Alley," yellow *Carnation*; and to Messrs. D. & W. Buchanan, Kippen, for a new black Grape.

Under the presidency of Mr. D. P. Laird a largely attended dinner was held in the afternoon of the 14th. Besides the Royal and patriotic toasts, that of the Judges coupled with the name of Mr. Thomas, was given. The new Secretary, Mr. P. Murray Thomson, S.S.C., who gave a delightful sketch of the Society in its infancy. At the first Show, in 1809, the only cut flowers were six *Carnations*. When the writer left the "Only Jones" was being toasted.

WOKING DAHLIA SHOW.

THE first exhibition of Dahlias arranged by the Committee of the Woking Horticultural Society was held in the Onslow Hall on Wednesday, the 14th inst. For the past week or two the extreme heat and absence of rain has had such a detrimental effect upon these flowers in the district that it became a serious question whether sufficient could be staged to fill the hall in anything like a respectable manner. Happily these fears proved groundless, as every available inch of table room was occupied with stands of blooms with which very little fault could be found, the Judges in several instances finding great difficulty in coming to a final decision.

Mr. T. W. Girdlestone staged a lovely stand of twenty-four distinct singles, including several which received first-class certificates at the recent show held at the Crystal Palace. The most notable were Eric, scarlet shaded cerise; Columbine, the most beautiful of all, a neat flower of a soft cerise; Louise, rose tipped with white; Nan, white on a red base; Puck, terra-cotta; Violet Forbes, white with a rose edge; and Folly, light rose with deeper edge.

For twenty-four Show and Fancy Mr. S. Mortimer, Farnham, was first with fine blooms of Eldorado, R. T. Rawlings, Mrs. Sanders, Crimson King, Wm. Powell, Victor, Wm. Keith, Reliance, Mrs. Gladstone, and Duke of York. Mr. W. Baxter, The Nurseries, Woking, was second with good blooms of Maud Fellows, R. T. Rawlings, Wm. Rawlings, Matthew Campbell, John Hickling, and Geo. Harris. For twelve Show or Fancy Mr. S. Mortimer was again first with practically the same varieties as in his other stand; Mr. A. H. Needs was second with good specimens of Duchess of York, Wm. Powell, Shottesham Hero, and others; and Mr. W. C. Pagram, Weybridge, third.

For twenty-four Cactus Mr. Shoemith was first with a level stand, the best being Annie Nightingale, Mrs. W. Noble, Starfish, and Fusilier.

Mr. S. Mortimer was a close second with Captain, Starfish, E. J. Deal, Arachne, and Mrs. W. Noble. Mr. Keeble, gardener to T. W. Sharp, Esq., Twyford, third. For nine sprays of three Cactus Mr. Shoesmith was first with good sprays of C. Woodbridge, Annie Nightingale, and Starfish. Mr. R. Keeble second, and Mr. W. E. Reeve third. For twelve blooms of Cactus Mr. R. Keeble was first, Mr. J. W. Jones second, and Mr. S. Mortimer third. For six Pompons Mr. W. C. Pagram was first; Mr. W. Eacot, Brox, Chertsey, second. The amateur classes, open to those who do not employ professional assistance, were well filled, and produced some exceedingly good blooms; Mr. J. W. Jones, Mr. A. G. Clinton, Mr. W. E. Reeves, being the most successful exhibitors.—VISITOR.

PERENNIAL PHLOXES.

THIS is certainly the most beautiful of hardy autumn flowers; it is easily cultivated, and a succession of flowers can be obtained from it in the latter part of summer and throughout the autumn. It is extremely valuable for planting in mixed borders, and for the flower garden; also for growing in pots for the decoration of the greenhouse and conservatory. Although the Phlox is worthy of cultivation in any garden, it is just the flower for the cottager or the owner of a small garden, as it yields its flowers in rich and luxuriant profusion without the aid of glass houses, frames, or coddling of any sort.

There are two sections of the Phlox, divided into early and late-flowering. The early-flowering section contains numerous very beautiful varieties, but they are wanting in the rich orange-red, crimson, and purple shades of the late varieties. I find they do not thrive in the neighbourhood of London so well as the late sorts. It seems to me that they require a cool and moist atmosphere, as in Scotland the early varieties are preferred, and most of the new varieties are raised there. In the south of England it is best to grow the late-flowering section, although it is as well to have a few of the others in order to prolong the season of flowering. They require the same treatment, and both sections will well repay the amount of care required to keep them in good order. The culture is very simple, but their wants must be attended to at the proper time, otherwise success will not be attained.

I shall begin with established plants, such as may be obtained from the nurseries. A plant in a small pot which has been rooted in the spring, and sent out in the autumn, will throw up from the base of the stem a number of shoots. When these have grown 3 or 4 inches in length all except three must be taken off to make cuttings. Some light sandy mould should be prepared, and one cutting inserted in the centre of a 3-inch pot; they root freely, especially if the pots can be plunged in a gentle bottom heat in a manure frame. When the cuttings are rooted the plants should be removed to a cold frame, and gradually inured to the cold; for although the plant is quite hardy, it dislikes sudden changes of temperature. Some of the plants ought to be reserved for pot culture, and others for planting out.

The plants intended for pot culture should, as soon as the pots are well filled with roots, be placed in 6-inch pots, shifting them afterwards into 8-inch pots, in which they may be allowed to flower. This size I find to be the best for flowering strong, early, spring-rooted cuttings, and noble spikes of flowers are obtained in this way, when the plants receive careful attention. If the plants intended to be grown and flowered in pots are from cuttings rooted in the previous season, three shoots may be allowed from each plant, and they should be flowered in 10-inch pots. The best compost to use is three parts of sandy loam, one part of leaf mould, and one part of decayed manure. During the growing period the pots ought to be plunged in cocoa-nut fibre refuse, in the full sun, but sheltered from cutting winds, and be abundantly supplied with water. Occasional waterings with weak manure water will be beneficial. At an early stage of their growth sticks may be put in; these should stand 2 feet out of the ground and be rather stout, as a well-grown spike offers considerable resistance to the wind.

For culture in the open ground, the Phlox should be planted in beds if the finest possible spikes be desired. A few plants in a mixed border are a pleasing feature, and contrast well with Delphiniums and other herbaceous plants, but it is not easy to pay proper attention to them in such a position. Four rows may be planted in each bed, with an alley between wide enough to allow a man to pass along with a watering pot without damaging the spikes. If one spike only is allowed to each plant, 16 inches apart in the beds will be sufficient; if three spikes, 24 inches should be allowed. Early in March is the best time to plant them, and the ground must be deeply trenched and highly manured. The plants will also require copious supplies of water during the growing season, and the beds should be also mulched with short manure to prevent evaporation.—G.

THE YOUNG GARDENERS' DOMAIN.

ACHIMENES.

THE culture of these beautiful and useful plants seems to be on the decrease, and this, I think, is a great pity. I have often heard it remarked, "Oh! anyone can grow them." If such is the case, cannot the same be said of many more plants that are to be seen everywhere, such as Begonias, Cyclamen, and "Geraniums?" Grown in pots and pans of various sizes they are most useful for the conservatory, for vases, or as a table plant. Of the many varieties that are in cultivation we find *Achimenes longiflora* and Dr. Hoph, very vigorous and free bloomers; the former is a dark blue, while the latter is white and purple.

Where some err in growing *Achimenes* is by giving them too much heat, also of peat, causing long soft growth, which does not ripen sufficiently to allow for good stout flowers and depth of colour. The compost we use is three parts good leaf mould to one of light loam, sand and charcoal to keep the whole porous and sweet. The tubers are started in April in pure sand, and placed in a temperature of 60° by night; kept moist they soon start into growth, and when the plants are large enough are pricked off into their flowering pans or pots, using the compost as above. We pinch them once only, and that when the growth is about 4 inches long: after which they are placed in a cool vinery or spent hotbed, with a night temperature of 50°, but in all cases close to the glass and shaded from hot sun. The syringe is rarely used, their surroundings being kept moist. In June they are removed to a cold frame, admitting abundance of air on all favourable occasions. Growing them hard and wiry from the first they require but little staking, and continue in bloom over a long period.—PARVO.

EARLY AND LATE PEAS.

I THANK "First Journeyman" for his brief notes (page 174) on the above subject. This is the sort of thing which should tend to make the "Domain" of real interest and usefulness. Allow me to add, that as "F. J." has quoted the date of gathering his Peas, it has induced me to make an inspection of the book kept for recording such items, with the result that I find the actual date of gathering our last dish of Peas in 1897 was the 15th of November, and I still maintain we could have gathered a few more dishes had the weather remained open.

For early gathering, however, "F. J." takes the lead, but he does not say whether the Peas were actually sown out of doors, or whether they were sown in pots or on turves under glass for the first crop. Will he kindly furnish us with the date of the year in which his feat was accomplished?—T. P.



FRUIT FORCING.

Cucumbers.—The plants for winter fruiting should be placed out as soon as they are ready, good bottom heat being essential to success, whether it be obtained by fermenting materials or hot-water pipes. The soil may consist of light turfy loam, with a third part of peat, a sixth of old mortar rubbish, and a tenth of "nuts" charcoal, the whole well incorporated. For imparting vigour later rely on liquid manure and surface dressings in preference to employing manure in the compost.

Autumn Fruiters.—A healthy and vigorous growth must be secured by a genial condition of the atmosphere, but avoid a close and saturated state by judicious ventilation, always being careful not to admit cold drying currents. Keep the growths fairly thin, going over the plants twice a week for stopping and removing superfluous growths, being careful not to overcrop the plants. Be sparing in the use of water, especially over the foliage, but damp the floor and walls in the morning and afternoon, gradually, however, reducing the moisture as the days shorten and the sun heat declines. Add a little fresh previously warmed soil about once a fortnight to the hillocks or ridges, applying weak liquid manure once or twice a week as may be necessary. Fumigate on two or three consecutive evenings if aphides appear, and be careful not to give too much.

Peaches and Nectarines.—*Trees Ripening the Fruit in July.*—The trees will now be approaching the resting period and the foliage becoming sere. Supply them with water so as to keep the soil moistened through to the drainage. If in good condition the roof-lights may be removed, if not already done in August, and they can remain off until the end of the year or later, but if the wood is not ripe it is not wise to expose the trees to heavy rains and snow. The removal of the roof-lights when the wood is firm and the buds plumped insures rest and the thorough moistening of the border. When the trees are very strong it is advisable to take out a trench about one-third the height of the trees from the stem, and detach all roots down to the drainage, leaving the trench open for ten days or a fortnight, when it may be filled firmly. This operation must not be done until the growth is complete and the wood firm. Young trees may be operated upon sooner in order to check growth and induce bud formation and ripening of the wood. These and older trees with strong wood may be lifted, wholly or partially, when the leaves give indications of falling. In the case of weakly trees remove the old soil from over and amongst the roots, supplying fresh, rather strong loam with an addition of calcareous matter when the loam is not of that nature, making it firm, and following with a good soaking of liquid manure.

Trees Ripening the Fruit in August and Early September.—Cut out the wood that has borne fruit, leaving no more than can be freely exposed to light and air. Cleanse the foliage of dust and red spider by water directed with force from a garden engine or syringe, and repeat occasionally. If there is scale promptly apply an insecticide, also against red spider and brown aphids, which sometimes attack the younger parts of the wood in autumn, and can be destroyed by diluted tobacco juice. There must be no lack of moisture at the roots, therefore apply water to the inside borders as necessary to prevent their becoming too dry. Afford

abundant ventilation, and if the wood is not well ripened keep the house rather warm by day, and throw the ventilators open at night, but a warm, close, moist atmosphere must be avoided, as that would be more injurious than otherwise.

Late Trees.—When the fruit is gathered the trees will need to have the shoots thinned where too crowded, and those which have borne fruit and are not required for extension can be cut out to a successional shoot at the base. This with free ventilation and gentle fire heat in dull weather, in cold localities, and the wood strong, will assist in ripening the growth, which is of primary importance as regards next year's crop. Avoid a too dry condition of the border. The trees must not lack moisture, and yet a rather drier condition of the roots is advisable when the fruit is ripening. Some soft netting will be useful to save any falling fruit, but it must be looped up in small pockets to prevent the fruits bruising each other. With an examination of the fruit every morning by an experienced person and again late in the afternoon, the ripe fruit being removed, there is no necessity for the netting. The fruit is better gathered before it is dead ripe, and kept in a light airy fruit room until in prime condition.

Prince of Wales is a magnificent fruit, so also is Gladstone, when grown under glass. Princess of Wales is, perhaps, the grandest of all the late summer Peaches, attaining to a large size and assuming fine colour under favouring circumstances. Sea Eagle also attains a large size and has good qualities; Late Admirable, Comet, and Golden Eagle are all good October Peaches. The trees must not lack water or the fruit may be mealy.

THE KITCHEN GARDEN.

Cabbage.—There is every prospect of a scarcity of green vegetables next winter and spring, and every effort should be made, therefore, to grow as much Cabbage as possible. Unless wanted particularly early, planting in succession to spring-sown Onions, not manuring or digging the ground, answers well. A surface cleaning and stirring with hoes is needed in this case, and the plants may be put out in drills 15 inches apart, a like distance dividing the plants in the rows. Market growers follow early and second early Celery with Cabbage, dressing the ground with as much manure as they can well turn in. The plants are first pricked out in nursery beds, and finally planted 1 foot apart each way. Early in the spring any plants with a tendency to bolt—which may or may not be the result of sowing too early in July—are drawn, bunched, and sold as greens, those left or the greater proportion hearting in early and strongly.

Cardoons.—Only the blanched stems or stalks and hearts of these are of any value as a vegetable. The leafstalks should be brought well together and kept so by hay-bands, which further serve to exclude the soil from the hearts. Bank the soil up around the banded plants much as large Celery has to be earthed, this answering the double purpose of protecting from frost and excluding light.

Cauliflowers.—If there are not enough plants raised in the open for storing in pots and boxes in a cold frame, or for planting thickly under hand-lights, more seeds should be sown in a shallow frame or pit in succession, say, to Melons or Cucumbers. Level the soil, make it fine, give a good watering, sow the seeds thinly broadcast, and cover with fine soil. The plants obtained in this way will not make much progress before the spring, and should be left where they are, covering with lights and affording other protection when needed in frosty weather.

Leeks.—These rank amongst the hardiest of vegetables, and with a scarcity of others would be appreciated more than usual. In order to have extra fine, well blanched stems a number of plants ought to have been put out in trenches, Celery-fashion, or dibbled in rich ground several weeks ago, but Leeks keep growing whenever the weather is mild, and if planted now on rich freshly dug ground may yet attain to a serviceable size. Form holes 8 inches deep and 12 inches apart with a stout dibber, drop a strong plant into each, and fix with water poured into the holes.

Lettuce.—Much that was advanced concerning sowing Cauliflower seeds also applies to Lettuce. If raised in the open after this late date they would be so small as to fall an easy prey to slugs, but a sturdy stock might be raised in a cold frame and wintered there. Varieties less hardy and of better quality than the Hammersmith, Hicks' and Bath Cos, notably Early Paris Market, Golden Queen, Commodore Nutt, and Perfect Gem Cabbage varieties, and good stocks of Paris White and Green Cos, may be raised and wintered in frames.

Spinach.—Good care should be taken of all the Spinach grown to stand through the winter, as this may prove exceptionally valuable early next spring. Once a week is not too often to run the Dutch hoe lightly between the lines of plants, this serving to keep down slugs and weeds and to let in the warmth and air, also conserving the moisture in the soil. Thin out the plants where crowded, leaving them from 4 to 6 inches apart.

Turnips.—There is a likelihood of these being scarce next winter. Plants that ought now to be growing strongly are at a standstill, and unless heavy rains fall soon they will be ruined. There should be no undue delay in thinning out the later breadths, doing this lightly at first, and eventually leaving the plants about 8 inches apart. Where possible, water freely after thinning, that is, if the ground is still dry, a surfacing of soot, prior to the watering, doing good.

Tomatoes.—If the houses are wanted for purposes other than Tomato culture, but the plants are still carrying a fair weight of fruit, this will be found to ripen better on than off the plants, and an effort should be made to save the latter as long as possible. Cut away all superfluous growth, also removing two-thirds of each sound old leaf left on the stems, wholly removing all that are dead or dying. Plants in variety may then be arranged between and under the Tomatoes without detriment, and the

fruit will ripen in due course. Roof-trained Tomato plants are the best for producing winter crops, but even these fail to set fruit during the dull days of late autumn. The fruit to ripen during the winter ought to be set, and some of it swollen to a good size now. Top those that are weakly as an aid to setting, and tap the stems of those in flower towards noon each day. Maintain a genial heat with the aid of a little fire, a warm dry atmosphere being imperative.

THE BEE-KEEPER.

DESTROYING WASPS.

ONE of the greatest pests that bee-keepers have had to contend with during the past few weeks has been the plague of wasps. Not only has the bee-keeper suffered, but the fruit grower has fared even worse. Strong colonies of bees will not allow the wasps to gain an entrance to their well-sealed stores; it is the weak stocks and those which are short of food that are attacked and rendered homeless by the wasps.

The only chance fruit growers have is to gather their fruit before it is ripe, and to destroy all nests found in the neighbourhood. There are various methods of carrying out the latter operation. By means of gas tar, which is poured into their holes at night, their nests may be destroyed at a rapid rate. This was the plan we adopted for many years, but as it often entailed a long tramp after it was dark at night we were anxiously on the look out for something that would take effect in the daytime.

After trying several experiments we have found nothing better than cyanide of potassium. It is a deadly poison, and care is needed in its use, but with ordinary caution it is perfectly safe. We have used it in small crystals, when a teaspoonful is placed in the hole of each nest. We, however, prefer large crystals about half an inch in diameter, one piece being sufficient for an ordinary nest, and two pieces for an extra strong one. It must be placed at the entrance to the nest, so that it is impossible for the wasps to gain admittance without passing over the poison. It should be sprinkled with water after being placed in the hole, which will cause it to give off fumes more readily. These strike downwards, and will destroy all the wasps in the nest. The nests may be operated on at any time during the day, and all the wasps that are on the wing will return to their nest, and will not pass out again owing to the deadliness of cyanide of potassium.

The poison should be kept tightly corked in a wide-mouthed bottle in a dry place, otherwise it will evaporate and be useless. If the cyanide when not in use is kept under lock and key and used as above the most nervous person need have no fear of it.

BEEES CLEANING COMBS.

"I always place my combs from which the honey has been extracted, cappings, and any *débris* in which there is honey, in the open air for the bees to clean, and have never found it caused any mischief. I have been told by some bee-keepers in the district that I ought not to do so, but would like your opinion." The above query comes from a well-known gardener who is also a bee-keeper, and it is encouraging to observe the numerous members of the craft who are interesting themselves in bee-keeping.

Since the above was written we have experimented on the same lines by placing a quantity of capping and dark honey during the middle of a fine day in the open air. Although it was placed some distance from the hives, of which we had upwards of three dozen crowded with bees, many of the hives contained twenty standard frames, so one can imagine the number of bees there were on the wing. In a few minutes after the *débris* was placed in the open, the air was darkened with bees, and the whole apiary was in such a state of excitement that it took them several days to settle down quietly again. Fortunately all the colonies were strong, and nothing more serious happened. On a previous occasion, when a number of combs were placed in the open air for the bees to clean, instead of placing them on the hive again, a weak stock was attacked and nearly destroyed by the robbers. We do not recommend the plan, it being so much better to place any refuse combs on the hive at night, when all will be cleaned up by the following morning, and the bees will not become excited in consequence.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

G. Bunyard & Co, Maidstone.—*Fruit Trees and Roses.*

H. Cannell & Sons, Swanley.—*Bulbs.*

B. R. Cant, Colchester.—*Roses.*

Farnley Iron Co., Farnley, Leeds.—*Bricks, Porcelain Goods, &c.*

R. C. Notcutt, Woodbridge.—*Bulbs.*

A. Perry, Winchmore Hill.—*Bulbs and Plants.*



TO CORRESPONDENTS

All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," **8, Rose Hill Road, Wandsworth, S.W.**, and **NOT** to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Exhibiting Ferns (Todmorden).—*Pteris serrulata cristata* major is not a hardy British Fern, but a varietal form of a Japanese species. *Osmunda regalis* is a North American Fern, and therefore not eligible for a class of British Ferns.

Anemones (W. N.).—As you desire to remove the tubers of the plants raised from seed "last July"—we presume July of last year—it is advisable to allow the leaves to turn quite yellow before disturbance. The tubers may then be planted when the ground is in favourable condition in October. We have had the finest displays when the seedlings, raised thinly, were not disturbed at all.

Repotting Tea Roses (Sidcup).—The present is a very good time for giving fresh soil. It does not follow that all the plants will be improved by having large pots, this depending on circumstances, such as the character of the roots and the sizes of the present pots. Overpotting is sometimes indulged in. It is important to have the drainage effective, and any loose soil may be removed from the roots, and especially any that may be in a sour ungenial state; some also should be removed from the surface. Pot firmly and plunge the pots to protect them from frost during the winter.

The National Chrysanthemum Show (Supporter).—A very good supporter, too, but we are quite unable to say what, if anything, has been done in endeavour to find a place other than the Westminster Aquarium in which to hold it. As no doubt you are aware, the Crystal Palace is suitable, and probably even more so than any building in London. It is not, however, always available at a given date, and besides the Aquarium authorities offer a substantial subsidy, and as practical men the N.C.S. Committee have to consider this in making arrangements and provision for meeting the natural liabilities incident to the shows.

Chrysanthemum Bud Mite—Making Bi-sulphide of Calcium (A. G.).—The buds are blackened and killed by the Chrysanthemum bud mite, *Phytoptus Chrysanthemi*, which is most prevalent in dry seasons, and was first noticed as infesting Chrysanthemum flower buds in 1893—a dry season—being figured and described in the *Journal of Horticulture* September 26th, 1893, page 291. The mite destroys the buds, living between the scales, and browses upon the embryonic florets. Sometimes it causes the buds to assume a gall-like appearance, but commonly only turns them black and "deaf." This represents your case, and that of not a few others this season. The usual "host" is the *Centaurea* of the montana type, also *Chrysanthemum segetum*. The enemy has now departed, therefore no application to the plants will be of any use. The best preventive is to dust the buds before "taking," or as soon as formed, with black sulphur, or spray occasionally with petroleum emulsion, one part to seventy-two parts water. We have also found that plants sprayed with bi-sulphide of calcium, as a preventive of "rust," are not affected by mite. The bi-sulphide is made by boiling 1 lb. each of quicklime and flowers of sulphur in 5 pints of water in an earthen pot for ten minutes. It should be constantly stirred while it is boiling, then allowed to settle, and the clear liquid, when cool, poured off for use. It may be kept in stone bottles, tightly corked, in a dark place. For use, 1 part to 100 parts water. Against mite start spraying in advance of the buds showing clear of the leaves and into the points of the shoots, while for "rust" spray on the under side of the leaves. Sulphide of potassium, half ounce to a gallon of water, also acts well against both the mite and the "rust."

Renting a Small Nursery (S. R. R.).—Though it is not within our province to give estimates of cost (these depending entirely on the nature of the materials involved), your question, as put, is unanswerable. Within the radius you name sites vary in rental to an extraordinary degree, and the value of any structures that may exist depends absolutely on their condition. If you find what you consider a favourable and promising site have it inspected by a thoroughly experienced man before entering into any undertaking, so many of which have proved unfortunate. A fee paid to an experienced professional, as suggested, might prove a wise investment. No one can give you advice worth having without an inspection and a full consideration of existing facts and future possibilities.

Rogiera (Rondeletia) gratissima (G. L., Bradford).—You will find this plant a very charming one, that is admirably suited for culture in a not too cold greenhouse where, with ordinarily careful attention, it will flower profusely during the summer. In habit the plant is rather straggling, but the judicious use of the knife will do much to overcome this slight fault. The flowers (fig. 42) are of a soft pinkish white tint and waxlike texture, and, moreover, possess an agreeable fragrance, rendering them pleasing either on the plant or when cut. Though the culture is comparatively simple, care must be exercised to keep it in good health. One of the most essential points is that the soil be sufficiently well drained to permit the free passage of water, as stagnant moisture quickly produces an injurious effect on the plant. A compost of light turfy loam, a little peat, and a good proportion of sand is most suitable; the plant must never be overpotted.

Small Fruit and Vegetable Farm (T. J.).—Unless your capacity for cultivation is of an extraordinary nature you could not accomplish what you suggest on the limited site in the absence of glass. The erection of structures would involve a considerable outlay, and when erected could only be managed profitably by a combination of good personal judgment, cultural ability, and industry. Given these with good soil, a full water supply, and a surrounding population not already well served with Tomatoes, Cucumbers, Mushrooms, flowers, or whatever might be required and that might be produced, there are no doubt plenty of men who could do what you indicate, as, in fact, there are many who have done a great deal more; but, on the contrary, truth compels us to state that there are still a far greater number who would fail absolutely. As a rule, or principle, only those cultivators who can place on the market the best possible products at the least possible cost have much chance of succeeding in the keen and practically worldwide competition of the present day. If you are an amateur imbued with the prevalent idea that growing fruit and flowers is a pleasant occupation, and you cannot afford to lose a few hundreds of pounds by indulging in the luxury, we should be sorry to induce you to enter on the experiment. If you are a sound cultivator and actual worker determined to excel yet unacquainted with commercial methods, do what we advise another correspondent—consult a competent professional adviser on the spot and act accordingly. This is the best advice we can give, and if any of our readers who are experienced in the subject in question can improve on it they are at liberty to do so.

Roses for Exposed and Smoky District (S. N.).—Climbing for east aspects: Dundee Rambler (white pink edges) or Ruga (pale flesh, fragrant), Crimson Rambler, Félicité Perpétue (creamy white), Amadis or Crimson (Boursault), Gloire de Dijon (fawn), and William Allan Richardson (apricot yellow). In a very smoky district we found an east wall best covered by Boursault Roses—Amadis (crimson), Blush or De Lisle (pale blush), Elegans (crimson-purple, white stripe), Gracilis (bright pink), Inermis (bright red), and Splendens (rosy blush). Hybrid Perpetuals: Alfred Colomb (carmine-crimson), Beauty of Waltham (cherry-crimson), Camille Bernardin (light crimson), Charles Lefebvre (velvety crimson scarlet), Earl of Dufferin (velvety crimson), Général Jacqueminot (scarlet crimson), Harrison Weir (velvety crimson), John Hopper (bright crimson), Mons. Victor Verdier (rich carmine), Maréchal Vaillant (rose crimson), Sénateur Vaisse (bright crimson), Abel Grand (silver rose), Baroness Rothschild (rose), La France (satiny pink, rosy centre), Duchess of Leeds (rosy pink), Lady Helen Stewart (crimson scarlet), Maurice Bernardin (crimson shaded violet), Mr. James Brownlow (carmine), Mons. E. Y. Teas (cerise red), Mrs. John Laing (pink), Madame Gabriel Luizet (satin rose), Sir Rowland Hill (deep port wine colour or ruby claret), Oxonian (shaded), and Clio (flesh). We have endeavoured to meet your requirements for "Roses of a dark and light shade, and those having the strongest perfume." They are hardy, with the usual protection in winter, and have succeeded in a rather smoky district. The Ramanas Roses (*Rosa rugosa* vars.) succeed in smoky districts.

Melon Roots Diseased (Parvo).—The tubercles on the Melon plant roots are caused by root-knot eelworm (*Heterodera radiculicola*), a minute creature about one two-hundredth inch in length in the adult state. We failed to find the "worms as enclosed in box and the few killed by lime water." Possibly they were species of white worm, which are often associated with decaying vegetable matter, and may sometimes accelerate, if not actually cause, the destruction of living tissues. All the eelworms we found—eggs, cysts, so-called larvæ, free males and gravid females—were alive, and in no way affected prejudicially by the lime water if it had been used to effect their destruction. We mention this as you mention "worms killed by lime water." We still find Little's soluble phenyle the most effective against these pests when the plants are growing, applying as in an ordinary watering at the rate of a fluid ounce to 3 gallons of water, repeating occasionally. A grower badly troubled with eelworm uses the phenyle at the strength quoted before planting and afterwards at half strength, or one part in 960 parts, and secures good crops of both Cucumbers and Melons where they were formerly failures. For general disinfection there is nothing better than scalding the soil and bed walls

with boiling water. Where this cannot be done use 2 lbs. of best freshly burned chalk-lime per square yard, slake, using as little water as possible to cause the lumps to fall into powder. Let it lie overnight, then work in with a fork a foot deep, taking small spits, and in a day or two apply half a pound kainit per square yard, forking in similarly to the lime after forty-eight hours. This should be done some time in advance of planting, or as a disinfectant when the plants are cleared.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and*



FIG. 42.—ROGIERA GRATISSIMA.

varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. *Dessert Pears cannot be named in a hard green state.* (F.).—Duchess of Oldenburg. (D. R.).—1, Ecklinville Seedling; 2, New Hawthornden. (J. K.).—1, Minchull Crab; 2, Beauty of Kent; 3, Stirling Castle; 4, Gloucestershire Costard; 5, Hollandbury. (R. R.).—1, Cellini; 2, Blenheim Pippin; 3, Lady Sudeley; 4, Warner's King; 5, Duchess of Oldenburg; 6, Lord Suffield. (Youngster).—1, Tower of Glamis; 2, Ribston Pippin; 3, Emperor Alexander; 4, Peasgood's Nonesuch. (R. P.).—Potts' Seedling Apple and Williams' Bon Chrétien Pear.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (F. G.).—1, Polygonum Sieboldi; 2, Leycesteria formosa; 3, Euonymus europæus. (S. J.).—1, Begonia argyrostigma; 2, Agapanthus umbellatus variegatus. (F. Lane).—1, Diplopappus chrysophyllus; 2, Colutea arborescens; 3, dead; 4, send when in flower. (M. F.).—1, Pteris serrulata cristata; 2, Cyr-

tomium falcatum; 3, Pteris Victorice; 4, Selaginella cæsia; 5, Pteris longifolia; 6, P. umbrosa. (W. B.).—1 and 2, seedling forms of Cupressus Lawsoniana; 3, Juniperus drupacea; 4, Thuia borealis; 5, Retinospora plumosa; 6, Thuia occidentalis.

COVENT GARDEN MARKET.—SEPT. 21ST.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve ...	0 0	to 0 0	Grapes, lb. ...	1 6	to 3 0
Cobs ...	0 0	0 0	Lemons, case ...	11 0	14 0
Filberts, 100 lbs. ...	0 0	0 0	St. Michael's Pines, each	2 6	5 0
Gooseberries, $\frac{1}{2}$ sieve ...	1 6	2 0	Strawberries ...	1 6	3 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0 0	to 0 0	Mustard and Cress, punnet	0 2	to 0 4
Beans, $\frac{1}{2}$ sieve ...	0 0	0 0	Onions, bushel ...	3 6	4 0
Beet, Red, doz. ...	1 0	0 0	Parsley, doz. bnchs. ...	2 0	3 0
Carrots, bunch ...	0 3	0 4	Parsnips, doz. ...	1 0	0 0
Cauliflowers, doz. ...	2 0	3 0	Potatoes, cwt. ...	2 0	4 0
Celery, bundle ...	1 0	0 0	Salsafy, bundle ...	1 0	0 0
Coleworts, doz. bnchs. ...	2 0	4 0	Scorzoner, bundle ...	1 6	0 0
Cucumbers ...	0 4	0 8	Seakale, basket ...	1 6	1 0
Endive, doz. ...	1 3	1 6	Shallots, lb. ...	0 3	0 0
Herbs, bunch ...	0 3	0 0	Spinach, pad ...	0 0	0 0
Leeks, bunch ...	0 2	0 0	Sprouts, $\frac{1}{2}$ sieve ...	1 6	1 9
Lettuce, doz. ...	1 3	0 0	Tomatoes, lb. ...	0 4	0 9
Mushrooms, lb. ...	0 6	8	Turnips, bunch ...	0 3	0 4

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6 0	to 36 0	Heliotrope, doz. ...	4 0	to 6 0
Aspidistra, doz. ...	18 0	36 0	Lilium Harris, doz. ...	12 0	18 0
Aspidistra, specimen ...	5 0	10 6	Lycopodiums, doz. ...	3 0	4 0
Dracæna, var., doz. ...	12 0	30 0	Marguerite Daisy, doz. ...	6 0	9 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	4 0	6 0
Erica various, doz. ...	12 0	24 0	Musk, doz. ...	2 0	6 0
Euonymus, var., doz. ...	6 0	18 0	Myrtles, doz. ...	6 0	9 0
Evergreens, var., doz. ...	4 0	18 0	Palms, in var., each ...	1 0	15 0
Ferus, var., doz. ...	4 0	18 0	„ specimens ...	21 0	63 0
„ small, 100 ...	4 0	8 0	Pelargoniums, scarlet, doz.	4 0	6 0
Ficus elastica, each ...	1 0	7 0	„ „	8 0	10 0
Foliage plants, var., each	1 0	5 0			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch ...	2 0	to 3 0	Maidenhair Fern, doz.	4 0	to 8 0
Bouvardias, bunch ...	0 6	0 9	bnchs. ...	1 6	2 6
Carnations, 12 blooms ...	1 0	3 0	Marguerites, doz. bnchs. ...	1 6	3 0
„ 12 bnchs. ...	4 0	8 0	Mignonette, doz. bnchs. ...	1 0	2 0
Chrysanthemums, per doz. ...	1 0	4 0	Myosotis, doz. bnchs. ...	1 0	2 0
Eucharis, doz. ...	2 0	3 0	Orchids, var., doz. blooms	1 6	9 0
Gardenias, doz. ...	1 0	2 0	Pelargoniums, doz. bnchs.	3 0	6 0
Geranium, scarlet, doz.	4 0	6 0	Polyanthus, doz. bnchs. ...	1 0	1 6
bnchs. ...	1 0	1 6	Pyrethrum, doz. bnchs. ...	1 0	1 3
Gладиoli, per bunch ...	4 0	6 0	Roses (indoor), doz. ...	0 6	1 6
Iris doz. bnchs. ...	1 6	2 0	„ Red, doz. ...	0 3	0 6
Lapageria (white) ...	1 0	1 3	„ Tea, white, doz. ...	1 0	2 0
„ (red) ...	4 0	5 0	„ Yellow, doz. (Perles)	1 0	2 0
Lilium longiflorum, 12	1 0	2 0	„ Safrano (English) doz.	1 6	3 0
blooms ...	1 0	2 0	„ Pink, doz. ...	1 6	3 0
Lily of the Valley, 12 sprays	1 0	2 0	Smilax, bunch ...	1 6	2 0



AUTUMN CLEANING.

THE corn harvest having been safely gathered in the preparation for, and sowing of, the next year's Wheat crop, is naturally the chief thought of the purely arable farmer; but if the land be hard and dry, and ploughing almost impossible—i.e., to do the work properly, there is plenty of employment to be found both for horses and men in breaking up and cleaning the recently cleared stubbles.

No matter how clean a stubble may be we should prefer to put a drag through it now, and leave it for a more convenient time before ploughing. As for land that is full of twitch and rubbish, there can be no question that the cultivator must be brought into use if anything like a good job is to be made of it before the time comes for again drilling Turnips.

Experienced farmers know only too well the value of an autumn fallow. There are seasons, and, alas! they come too frequently, when a late harvest is followed by a wet autumn. It is under such circumstances that the drag and harrow do little good, even if there be time to use them, and the farmer most reluctantly has no choice but to use the plough and turn under in a lively state the twitch, which before spring will be again making a hydra-headed appearance.

There are stubbles so foul that it is almost impossible to get a cultivator to pass through them, and in such a case a shallow ploughing first may have to be resorted to; but we must remember the plough is a cutting instrument, whereas the cultivator only disturbs and lifts. Now, as the difficulty of eradicating twitch increases the more the roots are cut up into small portions—for the small pieces defy even a rake, and succumb only to summer drought—it is that the drag or cultivator is the proper tool with which to first break up stubbles, and that the plough must not be used until December except in case of dire necessity.

But though we hear it stated by farmers, and hitherto have almost believed it, that there are fields too foul for a drag to face, modern implements have been so much improved that we have become doubtful on the point. For one thing, it is a great mistake to attempt too much at once. To go through a tangled mat of twitch the drag or cultivator must have the teeth set widely apart, or the implement will be continually blocked up. There must also be plenty of room between the rows of teeth.

Some of the best of the spring-tooth cultivators are not suited to tackle such foul land as we have in view, but there are new implements which will admirably answer the purpose, as they have been constructed expressly with a view to avoid the blocking difficulty. Of course they do not thoroughly break up the land at one operation as the more closely set drags will do, but if the drag be again put through little of the surface will remain unstirred, and the harrows may be brought into use forthwith.

If, however, a sufficient amount has been loosened at the first dragging, it would be better to harrow it, and either burn or get the twitch off before bringing any more to the surface. Many people object to burning as wasteful, but at the present price of nitrogen the small amount contained in dry twitch must be very dear at the cost of carting into hill, turning over, and carting out again when decayed. As the other constituents, such as potash, are not lost by burning, they need not be taken into account, whilst the benefit to retentive soils of an application of ash or burnt earth is very great. The ash heaps, however, should be well spread about, especially if they are large ones.

Twitch works out of the soil most easily where small stones are plentiful, and the most difficult land to clean is that of a loose sandy nature where there is no stone at all. On such soil it is especially necessary to avoid dragging too deeply at first, and it is best, if possible, to thoroughly clean the top 3 inches before stirring the land any deeper, and then it is doubtful whether ploughing 5 or 6 inches should not be the next operation before doing anything more in the way of dragging.

A great advantage gained by autumn dressings is in the destruction of small weed seeds, which if ploughed down now remain dormant to re-appear at the surface and grow at some future time. The fine tilth produced by the harrows is just the medium in which such seeds delight to germinate, and the first rain will cause millions of them to spring into life. Later on when the plough comes along they will be buried to rise no more.

As much autumn fallowing as possible should be practised, but, when all the fields cannot be so treated, those intended next year for Mangold, Kale, and Swedes must be attended to first, for should there be a long severe winter the work not done now might have to be deferred until very near the time for sowing. This is a state of things which the old-time farmer would not approve of, for he likes to get his land ready for Turnips two months before sowing time. Then if ploughed and drilled at once the seed goes into what

is called by him a green furrow, and with every prospect both of quickly germinating and the plants doing well.

N.B.—A VICAR WANTED.—We should be delighted to see the good vicar who wrote the note on page 218 here. If he is of the right sort (and as a reader of the *Journal* he must be) he might become a permanency, as at present we are sheep without a spiritual shepherd. The vicarage is good, the grounds lovely, only fit for a genuine gardener. We are not often troubled by drought; possibly this is on account of our freedom from idolatry. Speak a good word for this poor bereft parish, kind Editor."

[The "word" is—It is a parish of Roses, in which the invited vicar delights. He is of the "right sort," but his people would not let him go—for long.]

WORK ON THE HOME FARM.

Thatching the stacks so grandly got has lately been the chief work of the men. The horses have been again ploughing the summer fallow, and for the last time. We hope to get this land sown with Wheat before the month is out.

Thrashing has become more general as regards Wheat, and the reports are not very good. The large bulk of straw is not likely to produce its due proportion of grain, and we hear of very good crops yielding only 4 quarters per acre. It would seem that the high estimates of this year's English Wheat crop will be much above the reality.

We are sending off a few more Potatoes, and we suppose many others are doing the same, for markets are full and prices drooping.

It is time to think of sowing Winter Tares. They like plenty of muck, which should be well ploughed-in; all that is needed besides is a good harrowing, both before and after sowing. They may be sown broadcast, though few men nowadays can sow well enough to approach the even distribution of a drill. Besides this, it is desirable to cover the seed well, so as to guard against the attacks of pigeons and rooks, and this can be achieved by putting plenty of weight on the drill coulters.

Lambs are doing very well indeed; it is hardly possible to put them wrong just now, whether they be on Clover fog, Cabbage, Thousand-heads, or grass. Ours are on Clover during the day, and on stubbles at night. They are eating lamb food and linseed cake, but not much as yet; we mix with it a little old cut oat straw. This dry ration they get early in the morning, and it prevents them getting too much dewy green food. Clover carries quite enough moisture inside it without having water added, and we believe that wet pastures are often to blame for lamb ailments about this time.

The hot weather is ripening the Turnips off, and the earliest will be ready to stock by October. Successfully getting his lambs on Turnips without loss is one of the difficulties of the flockmaster. Turnips vary so much in quality and texture that it is difficult to draw up hard and fast rules, but unless the roots are very well ripened indeed they should be taken up a couple of days before use, and then cut for the sheep. When lambs are well accustomed to Turnips the tops will not hurt them, but at first we think they are better without them.

METEOROLOGICAL OBSERVATIONS

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1898. September.		Barometer at 32°, and Sea Level	Hygrometer		Direction of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Temperature.		
			Dry.	Wet.			Max.	Min.	In Sun	On Grass	
		inches	deg.	deg.		deg.	deg.	deg.	deg.	inches.	
Sunday	11	30.053	64.4	53.5	S. W.	65.1	77.4	53.7	114.9	49.1	0.010
Monday	12	30.019	60.9	55.3	N.	64.8	71.7	56.1	116.9	50.4	—
Tuesday	13	30.144	60.4	52.2	S. W.	63.2	69.9	49.8	100.7	44.8	—
Wednesday	14	30.220	62.4	59.8	S.	63.2	79.2	59.9	115.1	54.8	—
Thursday	15	30.387	32.8	60.6	S. W.	63.7	81.1	53.9	111.7	49.4	—
Friday	16	30.239	66.7	61.9	S. E.	63.2	84.2	57.8	118.4	50.6	—
Saturday	17	29.994	68.8	63.9	S.	63.5	89.0	55.8	122.2	50.4	—
		30.151	63.8	58.9		63.8	78.9	55.3	114.3	49.9	0.010

REMARKS.

11th.—Cooler and generally cloudless, except in early morning and late evening.
12th.—Overcast early with a little drizzle, generally sunny after 9 A.M. to 0.30 P.M.; overcast afternoon, and sun bright from 5 P.M.
13th.—Bright sun in morning, generally cloudy after noon, with spots of rain at 1 P.M.
14th.—Overcast early; fair morning, bright afternoon.
15th.—Smoke fog early, clearing by 11 A.M., a little haze after to 11.30 A.M., then clear and bright.
16th.—Bright and hot all day.
17th.—Bright and hot all day; fine night.
Another very hot week, not so hot as the previous one, but exceptionally hot. Rainfall only just measurable. It is more than a year since we have had any week with even 1 inch of rainfall.—G. J. SYMONS.

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A Few Fine Sorts for Pots or Outdoors.

GOLDEN SPUR, a fine large deep golden yellow variety, per 100 21/-, per doz. 3/-.
HENRY IRVING, one of the earliest, very large flower, fine deep golden yellow, per 100 21/-, per doz. 3/-.
QUEEN OF SPAIN, very beautiful delicate soft yellow, with reflexing petals, per 100 17/6, per doz. 2/6.
BICOLOR HORSEFIELDI, petals pure white, trumpet golden, handsome, very early, per 100 17/6, per doz. 2/6.
INCOMPARABILIS SIR WATKIN, a very handsome large flower, petals sulphur, cup rich orange yellow, per 100 25/-, per doz. 3/6.
BARRI CONSPICUUS, broad yellow petals, cup conspicuously edged bright orange scarlet, a beauty and a general favourite, per 100 17/6, per doz. 2/9.
LEEDSII, MRS. LANGTRY, broad white petals, large white cup, edged canary yellow and much crinkled, a pretty Daffodil and very free, per 100 35/-, per doz. 5/6.
TRIANDRUS ALBUS ("Angel's Tears"), a gem on rockwork, pretty cream-coloured flowers, petals reflexed, per 100 8/6, per doz. 1/3.
POETICUS POETARUM, the most beautiful of the white Poets' Daffodils, per 100 12/6, per doz. 1/9.
BARR'S GENERAL BULB CATALOGUE, containing a Descriptive List of the best Bulbs and Tubers for Autumn Planting, and a List of Bulbs and Plants for Early Forcing. Free on application.

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PLANTING FRUIT TREES.

LAST week attention was given to the subject of old trees; this week space may perhaps be found for notes on planting young ones. The time is close at hand when this important detail of garden management will be in full swing. In many places the removal of Peach, Nectarine, and other wall fruit trees will have commenced, but this is a phase of culture quite distinct from general planting. These trees are usually well watered, shaded, and otherwise looked after when lifted during the early autumn; but in the case of fairly large plantations of Apples, Pears, Plums, or other more generally cultivated fruits, these have to be left until the rains have sufficiently moistened the soil to enable them to take care of themselves to a great extent after planting and staking is done.

Regarding the need of planting in every county in England it is not necessary to say much. Culture of every kind of hardy fruit has been so sadly neglected, that the need for replanting everywhere forces itself upon one. The ubiquitous bicycle takes gardeners, as well as other members of the community, into villages and hamlets, that without its aid we could hardly have an opportunity of visiting, and on every hand the same sad state of affairs is only too plainly apparent. Judging at local flower shows, visiting local nurseries, all give facilities to see the waste of opportunity everywhere apparent.

I have recently been visiting an old priory garden on the borders of Suffolk and Essex. The date of the building goes back to somewhere about the days of King Canute, and if the fruit trees in the lovely old garden do not date back as far as that they are at least a couple of centuries old. An old Mulberry tree, twisted out of all shape, and showing the effect of many a storm, I could admire as an interesting relic of former days, but to waste walls with miserable stunted old-trained trees, and to disfigure the beautiful old grass walks with worn-out espalier Apples and Pears, seems sad to a practical mind.

Yet this is what one sees every day in getting about the country, and what makes it the more

ridiculous is the fact that trees of the proper kind to plant—maiden two years old—are cheaper now than they ever have been before; so cheap in fact that no one having the least interest in the garden could grudge the few shillings for their purchase. The trouble of planting is very little if gone about in a proper way, and there is really no sound reason why these wasteful old trees should remain; cumbering the ground that should, with a little care, provide good fruit in abundance.

Preparation of the soil for planting may begin at any time during late summer, the earlier the better in fact, and it is quite economical to prepare quarters in spring, take a surface crop of some kind off during the summer, and plant as soon in autumn as possible. The soil in this case is thoroughly consolidated, while if left until the end of the summer droughty weather may set in, and heavy soil especially turns up in big lumps that a good deal of wet will not soften. Where fruit trees, such as Apples and Pears, have been grown it is wisest to give the land at least a couple of years' rest under some other crop, but this is not always possible.

For instance, in our garden we are doing away with several old espalier-trained Apples, Plums, and Pears, but have to plant pyramids in the same, or nearly the same, ground. All the difference is that the borders will be made a couple of yards wider, and as the old soil is doubtless deprived of most of the constituents necessary for fruit production, part of this will be wheeled away, and its place taken by new. If the necessary amount of soil were at command I should renew the border entirely, but this in a walk 80 yards long is rather a big item.

Soils vary considerably, and so does their management. Here it is heavy and adhesive, yet poor from years of neglect. I turned the lumps up roughly to get a good baking while the tropical sunshine lasted. Then a little later, after a soaking rain, these lumps will break down freely and unite with the new soil, making a friable medium for planting in. A lighter sandy soil would of course be more easily managed, as this would mix freely with the new material at once. Sandy soils are usually warmer, and though requiring more feeding, give richer colour in fruit of Apples and Pears.

Without going here into the merits and demerits of trained espalier trees, it may be allowed that without question the loose open style of tree, such as are adopted by market growers, gives the maximum of fruit with a minimum of trouble and expense. Such trees are useful in various positions, and encourage the natural habit of fruit production. There are a few kinds that fruit fairly well on trees snipped and cut back annually, but the majority prefer to fruit as Nature intended them to. Consequently I can with every confidence recommend intending planters not to buy large expensive trained trees of Apples and Pears, Plums, and other fruits, but to obtain well-rooted, clean, small specimens two years at most from the graft.

The great advantage in having the ground ready is that the trees may on arrival be planted at once if the weather is suitable. Very wet weather is much worse than dry for planting, and frost of course also puts an end to it. In very dry weather the trees must be unpacked a few at a time and the roots put in order. The pruning consists of cutting out entirely all roots that have been badly bruised in lifting, and smoothing all spade cuts with a keen knife. Then place the roots in water for a few minutes.

Plant as near the surface as possible, even if a slight rounding off is necessary to cover the top roots to a depth of about 3 inches. These small trees will not need large holes in ground that has been cultivated, but, if planting in the grass holes, a yard and a half should be opened some time in advance of planting. Whatever the description of soil, it is essential that the roots be well spread out horizontally, and that plenty of fine soil is worked in among them. In sheltered gardens staking will hardly be necessary if the roots are properly firmed and the soil trodden well as it is placed about them. It is much better notwithstanding this to be on the safe side, and place some neat stakes as soon as planting is done.

An important point too often lost sight of in staking or otherwise supporting trees is to see that they are not hung up, as it were, on

account of the soil sinking. The stake, of course, is driven down into firm soil, and cannot sink, so that if a tree is tied firmly to it it strains the ties, and cannot sink with the soil. Leave the ties a little loose, and the tree settles with the soil. A good soaking of water should follow planting and staking, and a mulch of half-decayed manure laid on.

When many trees have to be handled, they should be unpacked and laid in rotation, with labels plainly visible, so that a little soil may be thrown over the roots and the heads protected if necessary. Half an hour's drying in a cold wind is worse than a month of the coldest weather after planting, so only sufficient trees should be taken out at a time to last the planters a few minutes, the rest being kept covered, if only with a mat over the roots. Where rabbits are likely to be troublesome, straw cases from wine bottles form an excellent temporary protection, but tarred string or wire must be used for fixing them, or the rabbits tear them off easily.—H. R. RICHARDS.

LILIUMS.

IN common with our old friend, "*D., Deal*," I have a great weakness for these beautiful flowers. Some, I grant, are hopelessly disappointing, and our friends in the trade seem to have yet to learn that a good way of disgusting an amateur with bulb culture is by sending bulbs which produce a fair amount of leaves, but, alas! no bloom. How often with Liliams this is the case those only who have dabbled somewhat freely in these lovely plants can judge. Why do not our friends at once reply, "The smaller priced bulbs are very doubtful as to bloom." Well, those who like myself ride their hobby with a tight rein and strong curb would probably reason, it will be economy to have two bulbs at 1s. 6d. each, rather than three at 1s.

Like "*D., Deal*," I have done nothing with Humboldtii. I started it in a pot in the greenhouse, and three stems appeared, very promising, larger than my little finger, and I planted it out with little disturbance. The plants grew till they were 6 or 8 inches high, and then these promising heads were blind. I appealed to the firm that supplied me, a well-known name in the Lily world, and the reply was it rarely bloomed the first year, so in patience I lived in hope. If anything this year the heads thrown up were smaller, and sooner went blind than before; I doubt if it will ever appear again. Then concolor, Coridion, and Wallacei are sold, or offered rather, as "bulbs naturally small." Well, whether natural or not, concolor has never with me given a bloom—planted at once in the open, and this bulb appeared good—when it was covered over, it at the same time bid me adieu; we never renewed our acquaintance. Coridion sent up under glass two or three stems about 9 inches high, pretty foliage. But what good is that? After failing altogether with Wallacei, I, two years ago, put the bulb into a deep pot, and several stronger stems showed; but, alas! no bloom. I left these in the pot, and last autumn disturbed the soil till I came to several bulbs, shook this loose soil out, top-dressed, and waited. Probably as many as ten heads showed up this year, and they appeared larger than I had ever seen them before. I watered freely; they are said to be moisture-loving kinds, and on one of these heads I had a bloom. It is worth some trouble, very beautiful, and if only every shoot had presented me with one or two flowers it would have been a glorious sight. This year I propose as gently as I can to remove the loose top soil, get a larger and equally deep pot, and move the bulbs with the remaining mass of earth. This Lily is so charming that it deserves some extra care. These three Lilies are so much alike in growth and foliage that I fancy (theory not practice, mind) that similar treatment may suit all of them. This year I have bloomed *L. Krameri*, a very elegant Lily, but flimsy in growth.

The members of the speciosum group are all fairly hardy, but planted outside and left, they have gradually deteriorated, and several I do not expect to see again. I agree with "*D., Deal*," that *Melpomene* is much the most valuable, and, I fancy, the hardiest, and is so superior to *rubrum* and *roseum* that I have discarded the two latter. Of the whites I prefer the old album; I like the contrast of the dark reddish-brown pollen, though it may tint one's nasal organ somewhat if the perfume be carelessly inhaled, and perhaps gain you a character which you are not anxious to possess. There is no other difference in the album novum unless it be that the latter has narrower petals; not an advantage, surely. *L. Krætzleri* is poor compared to either of these. Excluding *Henryi* of the speciosum group, I am content, and if I may, would advise others to be content with these two. I see no difference in *rubrum* and *roseum*, and *Melpomene* is such a vast improvement on these in colour, size and vigour, that in a small

collection, and with my ideas of not letting your hobby run away with you, I am content with the pair, *Melpomene* and *album*. *Henryi* has all the characters of the *speciosum* group, and may well be called the yellow *speciosum*, but in vigour it far surpasses any of the others. I purchased it in 1896, ordering the cheapest bulb. Fortunately for me these were sold out, and Messrs. Jinkings & Co. generously sent me the larger bulb. I potted it, and it started very soon, sending up a strong shoot as large as my thumb. It grew with amazing rapidity in the greenhouse, and I had some eighteen or twenty blooms. I took off the top soil and covered it afresh. This year it has been quite 8 feet high, and had thirty-three blossoms, but at this height one wants steps to look at it. It reflexes more than the other *speciosum* Lilies, and I do not think this an improvement, as it makes the bloom appear smaller. Mine is a deep orange, and I cannot say that it has any red spots; perhaps it is that I am not quite 8 feet high and cannot see them. So far, I have not had any offshoots.

Of the *auratum* group, *platyphyllum* makes its cousins look mean in comparison. Can there be anything much more gorgeous than a good plant of this glorious Lily, the largest of the group? The only Lily that beats it, to my mind, I have yet to mention. I have two plots of *platyphyllum* in the open that have bloomed three years following. One of these this year has had deformed blooms (query, Is this the beginning of the end? I fear so); the other had beautiful flowers, and formed one of the six varieties of *Lilium* I exhibited at the Bath autumn exhibition. *Rubro-vittatum* is glorious only for a few hours, the beautiful red line down the midrib of the petal soon turning to a dusky dirty brown; moreover, I fear it is more liable to the disease than the others. Strangely enough, a friend of mine buying a lot of *Liliums* got a bulb of this before it came into circulation.

Liliums canadense, *rubrum*, and *flavum* are exquisite little gems, beautifully spotted; but this is the first year that I have tried them, and whether they will pay me a visit again I cannot say. I hope they will, for they are charming. So also is the white *Martagon*. If it take after its dusky pink brother it ought to increase rapidly. I trust it will.

Of the *tigrinum*s, I have two plants of *splendens* that are beautiful pictures at the present time. Each bulb has thrown up two stems with from ten to fifteen blooms on each. The colour with me is a pinkish yellow, and in some lights they almost seem transparent. *L. t. grandiflorum* is very much the same, though not so robust. *Grandiflorum* has a green stem and no bulbils in the axils of the leaves, while *splendens* has an almost black stem and little bulbs most of the way up the stem. My *Maximowiczii* is very similar to these without stem bulbils. *L. Leichtlini* is similar, but much paler in colour and has not treated me kindly, as it fails to stay! *L. pardalinum Bourgei* is early, very striking, with leaves in whorls, but is robust, and the crimson and yellow flower is sure to attract notice.

Then the varieties of *Harrisi* or the *longiflorum* type, all very beautiful, but like Hodge's razors, made or named to sell. I have had several varieties, but a fairly good eye is puzzled over the difference. "Too much alike" applies to some Lilies as well as to Roses—the tube may be a little longer or shorter, but that scarcely amounts to a difference. These thrive splendidly in Madaira, huge clumps growing in the gardens, and having their own sweet way revel in that soil and climate, and are a sight to dwell on the memory as long as it lasts. These and the *Crinum*s were the only Lily-like flowers I saw out there. The *Amaryllis* and *Belladonna* Lily later, I am told, are sights also.

In writing of *platyphyllum* I mentioned a Lily that I thought surpassed it. Everyone will not agree with me, but all who succeed in blooming it will allow that it is exceedingly handsome, whilst its perfume is delicious—this is *Lilium nepalense*, a greenhouse variety. I shall not easily forget my delight on seeing the first bloom open. I had bought a lot of unnamed bulbs, and this and *sulphureum*—one something of *longiflorum* type—were amongst them. How shall I describe *nepalense*? Well, first, it is a pendent bell, and this hanging form prevents some of its beauties being known. It is a peculiar pale greenish yellow in colour of tube and points of the petals, but the central part is blotched by about an inch of very dark claret colour, softening off towards the points in spots of the same colour. It cannot fail to arrest the attention of any flower lover. I was fortunate enough to have a single but very large bloom in my stand at Bath, and several visitors I heard exclaiming, "Oh! what is that?" It has its drawbacks—the blooms are shy. I do not think I have ever had more than two on a stem, and I have had several stems with—only leaves! But I hang on to the Lily for its rare beauty, and its fragrance—not so overpowering as some Lilies—charm me. *L. neilgherrense*, also a greenhouse variety, I have bloomed this year, but though in the bud it is unlike the *longiflorum* type, it is, when open, like them in shape, but longer in tube, and a shade of yellow in colour. I do not think I shall get it again should my bulb play me false. And now, I fear, good Mr. Editor, you will say, Bother the fellow, he talks of riding his hobby with a tight rein, but this new

horse of his, *Lilium longiscribum*, has run away with him. Well, forgive; I am landed safely.—Y. B. A. Z.

["Forgive!" Yes, but cannot grieve over the failures as we ought, for without them we should not have this article from "Y'baz."]

Apropos of the excellent article on "Lilies in August" by your esteemed correspondent, "D., Deal," on page 211, I am sending you a photograph, taken by my employer, of *Lilium auratum* var. *platyphyllum*, which flowered in the grounds here last month. The height of the stem was 6 feet 6 inches from the ground, bearing at its summit a huge truss measuring 18 inches in length and the same in diameter; the number of blooms was thirty-nine, which measured from 8 to 9½ inches across; it also increased itself by an offset this season, this having three fair-sized blooms.

The bulb has now been planted about three years, but this is the first occasion on which it has been really satisfactory, the buds shrivelling up in the manner so much dreaded by lovers of the *auratum*. I planted last season more bulbs, and have tried the experiment of packing charcoal around them. Up to the present they are very satisfactory, but there is a winter in front of them yet.—GEORGE HAGON, *Fowley Gardens, Liphook*.

[We were very pleased to see the photographs which showed such beautiful plants, but unfortunately they were not suitable for reproduction in our columns.]

LILIES IN WIGTONSHIRE.

MRS. McDOWALL of Logan House, Wigtonshire, has at present an unusually fine specimen of *Lilium auratum platyphyllum* growing in a sheltered situation midway between the mansion and the garden. It is fully 9 feet high, and of most commanding aspect, bearing upwards of thirty flowers, each of them being nearly 12 inches across. I think your correspondent, "D., Deal," is right in supposing that of all the *auratum*s this variety is the most valuable because the strongest growing and the most enduring. In my own garden several bulbs of it have lasted for six years, and as yet exhibit no symptoms of impaired vitality.

The danger of most forms is that of the excessive multiplication of offsets, whereby they rapidly degenerate and lose their strength, so that in a few years they are not worthy of cultivation. But *platyphyllum* and *rubro-vittatum*, of which the latter is very effective, seem to be exceptions to the general rule. This, at least, is the result of my own observation and practical experience. I greatly fear that the beautiful hybrid between *Lilium auratum* and *Lilium speciosum*, entitled *Lilium Parkmani*, called after the famous American historian and naturalist, no longer exists.—DAVID R. WILLIAMSON.

OUTDOOR FIG CULTURE.

(Continued from page 227.)

VARIETIES.

THE Figs grown at the Royal Horticultural Society's Gardens at Chiswick are said to number over 150 varieties, but only about a dozen are enumerated in catalogues, and they meet all requirements.

FOR STANDARDS—TREES WITH STEMS 4 TO 5 FEET HIGH.—*Brown Turkey*:—Fruit large and pyriform, brownish red, covered with blue bloom; flesh red and richly flavoured. The tree is hardy and sturdy in habit, spreading about as wide as it grows in height—15 to 20 feet, which should be the distance allowed between the trees. *White Marseilles*:—Fruit medium sized to large, round, green or pale yellowish green when ripe; flesh shining, very rich and juicy. The tree is hardy, but perhaps less so than *Brown Turkey*; free grower, and when somewhat aged bears freely.

FOR WALLS.—*Brown Turkey*, the best Fig for all purposes. *Brunswick*:—Fruit very large, pyriform, greenish purple or brownish, flesh opaline tinged with flesh colour, very rich and excellent. The tree is very hardy and strong growing, succeeding best against a high wall. *White Marseilles*:—This also requires plenty of space, it being difficult to restrain it and *Brunswick* on walls of 10 feet in height sufficiently for free bearing. *Brown Turkey*, however, is tractable on walls of that height or even less, only recourse must be had to root-pruning in case of over-luxuriance. For walls of 10 feet height or under and subjecting trees to restricted border treatment and root-pruning:—*Early Violet*:—Fruit small, roundish, brownish red, covered with blue bloom; flesh red and well flavoured. *Angelique*:—Fruit medium size, yellow, dotted with greenish specks; flesh rose coloured, perfumed, and of good quality. *Black Provence* or *Marseilles*:—Fruit small, dark brown or purple; flesh red, juicy, and richly flavoured. *Brown Ischia*:—Fruit medium sized, brown; flesh purple, juicy, and richly flavoured. *Black Ischia*:—Fruit medium-sized, turbinate, deep purple; flesh deep red, rich, and luscious. *Dwarf Prolific*:—Fruit medium size, dark brown; flesh opaline, with a syrupy juice and rich flavour. Like *Brown Turkey*, but a sturdier grower.

FOR DWARF TREES OR BUSHES.—Early Violet, Angelique, Black Provence or Marseilles, Black Ischia, and Dwarf Prolific. If one only, Brown Turkey.

Standards are simply bushes with long stems, planted 15 feet apart in rows 18 feet asunder. Bushes have stems 12 to 18 inches high, and should be lifted and root-pruned to keep them sturdy and fruitful. Half-standards, or trees with 2 feet 3 inches stems are fine for warm sites, even in town gardens. They must be lifted annually during the first fortnight of November with a ball, and may be placed in a shed or—as suggested by the late Mr. Thos. Rivers—cellar, safe from severe frost for the roots. These must not be allowed to become too dry. The trees can be placed in their fruiting quarters early in May, and will ripen a crop of fruit in September. Such trees are charming in foliage, and thrive in London as well as southern and south-eastern towns.

Fan-trained trees should be planted 12 to 15 feet apart against walls of 10 to 12 feet in height. Against buildings or high walls the trees may be placed 9 to 12 feet asunder. The strong growing varieties, such as Brunswick, will cover a large area of wall, and must be allowed space accordingly; but it is generally undesirable to place the trees a great distance apart, as they are liable to be injured by frost, and may thus need cutting back occasionally.

PLANTING.

The border or soil should be prepared some time in advance of planting to allow of settling. Though the trees may be planted in the autumn, April is better, but before they are much advanced in growth, so as to disentangle the roots and spread them out evenly, otherwise the root base retains the corkscrew-like formation given through growing in pots. The uppermost roots should not be buried more than a couple of inches, making the soil firm under and over them. If dry give a good watering, and mulch over the roots with short manure to the extent of 1 foot beyond their spread from the stem.

TRAINING FAN-SHAPE.

Trees received from nurseries for covering walls may have several shoots. Aim at a clean stem, with three to five shoots radiating from it, evenly disposed and spread out like the ribs of a fan. It will seldom be necessary to cut back the central growth, but this may be done to about a foot if more than that length. This will cause it to push three or more growths, of which take one upright, one on each side at an angle of about 45°, rubbing off the other shoots, and when the leading growth has made six good leaves, pinch off its point. This gives rise to three shoots and strengthens the base. Train one growth upright and one on each side similar to the early summer shoots, rubbing off all foreright and other growths.

The side branches of the preceding year, whether two or four, may push several shoots each. Train one forward in continuation, and one or two of the others, so as to cover the space evenly, having a foot of space between them. At the sixth good leaf the continuation growth of each side branch may be pinched, and also the points taken out of the side shoots at that distance, but the depressed branches seldom grow as strongly as the upright, and push growths all along down to the base, so that there is less need of pinching. Disbudding, however, is generally more necessary than pinching, no greater mistake being made than laying all the growths in, and ultimately so crowding the branches at the lower part of the tree as to prevent the origination, except from the rootstock, of successional wood. Rub off some of the shoots to avoid overcrowding in any part of the tree.

The procedure of one year applies to every succeeding season until the space has been covered, but after the second or third year of training such foundation will have been laid that it will seldom be necessary to shorten the branches, as sufficient growths will start to cover the wall space. Over this the main branches, and those required for furnishing the tree, should be thinly disposed, then it may be possible to secure fruit, but not when the wall is covered by a thicket of wood and numerous suckers springing from the root. The Fig requires light down to the base of each growth, then every leaf will perform its functions, and fruit follow.

MODE OF BEARING.

Fig production differs from that of fruit on most other trees. A tree will bear two and even three crops in one season. The first crop of each year is borne on the wood of the previous year's formation. The fruits are produced one or two together in the axils of the leaves, being formed along the shoots as the growth proceeds, and only those on the new or recently ripened wood come to maturity. It will thus be understood that the points of the shoots must be preserved when pruning. The flowers of the Fig are unisexual, and produced inside the fleshy receptacle, which is almost closed at the summit. The female flowers are most numerous, and located at the lower and greater part of the receptacle inside, the male organs being uppermost, and on their development appears to depend the swelling and ripening of the fruit.

The first crop ripens in August and September, but the second

crop, though the fruits become large, and remain on the trees after the leaves fall, rarely ripen in this country. Where I got my first lesson in Fig culture they were jealously guarded in order to secure a few ripe fruits in June, but this occurred very seldom, most of those of large size remaining on, falling with the rest of the second crop Figs early in the autumn. When these were removed at the end of the summer, after the first crop was cleared, by careful pinching other later ones formed by the side, and these, with those produced nearer the points of the shoots, remain dormant until the tree starts the following season, and then, as before stated, develop into the Figs constituting the first crop.—G. ABBEY.

(To be continued.)

A HOLIDAY REMINISCENCE.

THE longer evenings, and the settling down after the holidays, give us—when we have gathered up the threads of professional duties, and things generally are falling into order—an opportunity to develop some of the mentographs, or mind pictures, which were struck off during our holiday outings. These mental pictures are many with every true gardener, because observation, close, keen, and critical, is such a life-habit with him that, involuntarily, he takes in scenes and things, wholly and in detail, more than most other men. Especially is this so of things of his profession, whether it be some practical idea which he can work out at once in his daily duties, or only the germ of an idea, which is stored away to come up, matured by being kept and looked at now and then, ripe for use when wanted. All are there; and, I say, the longer evenings help materially to put into form these pictures of observation.

One of these pictures has been developing in my mind ever since my holiday in August. For some years past my holiday week has been spent in Salop—glorious and beautiful Salop. Family ties have, in the first place, drawn me thither, with, of course, Mrs. Provincial, but the great Shrewsbury Show in August is really the chief and most powerful magnet to draw me to the county and the county town. I must confess this. I could not keep away from it if I wanted, but then I do not want. Indeed, I go so far as to say that any gardener who has once seen that grand show, in that ideal show place, the beautiful Quarry grounds, will want to see it again, to say nothing of the attractiveness of the quaint old town. Not irreverently do I quote Dr. Watts, "I have been there, and still would go," and so powerful is the attraction to me that no sooner have I got back home than I begin to look forward to the next show in the coming year.

The show, as a show, is now "ancient history." Its description was so well done by "H. D.," in our *Journal*, that there does not need one word adding. At least, I am not going to add any, except in one matter, and that is as to the scene of the gathering of notable gardeners round the Secretary's tent in the show grounds on the first day of the show, just before and after judging, and at the luncheon. Before judging there are the cheery salutations and introductions, the handshakings, the comparing of ideas on all sorts of gardening subjects, the merry banter of friend and friend; and after the judging is over, the animated discussions on the merits of the show and its prominent characteristics, the interchange of thoughts one with another on special points, all done with earnestness and intelligence, make up a delightful scene, and one once seen never to be forgotten.

In no part of the kingdom surely is such a representative body of gardeners brought together as judges as assembles round the Secretary's tent at Shrewsbury. Let us look at them. Not that he would wish it we know, but I begin with Owen Thomas, the Queen's gardener, because he is the Queen's gardener, and worthily so. Then there are the three ducal gardeners—Barnes of Eaton, Blair of Trentham, and Slade of Clumber. After these we will put the lordly gardeners—Speed of Penrhyn Castle, Crump of Madresfield Court, Miller of Combe Abbey, Lambert of Powis Castle, and Pearson of Attingham. Then (and here I ought to apologise for not putting these first on these pages) there are the literary gardeners—our Editor, John Wright; and with him we put Alexander Dean, the initials of whose name are familiar to us all in the serial literature of gardening. Then a pleasant sight it is to see the past and present Superintendents of Chiswick, A. F. Barron and S. T. Wright. An interesting group is formed by what we may call the trade gardeners—Ward of Rayleigh, Outram of London, Ranger of Liverpool, and Dunkin of Leicester; and last, the squires' gardeners—Hudson of Gunnersbury, Wallis of Keele, Pownall of Lenton, Milner of Penrice Castle, Bremmell of Overley, Newman of Conover, and Farrant of Shrewsbury, with the naturalist gentlemen of the town and neighbourhood who judge the wild flowers.

All this, with the activities of the Secretary's tent, and the flitting about of the Society's officers, makes up a scene wonderful, inspiring, and ever delightful; a mental picture which comes to me again and again. So interesting, indeed, is it, and so enjoyable, that I thought I would try to put it into words that others might enjoy it also.—AN OLD PROVINCIAL.

STEM TUBERATION OF POTATOES.

THE accompanying illustration furnishes one of the most remarkable examples I have seen of the determination of the Potato plant to create tubers somehow, in other words, to honourably fulfil its mission or duty in the economy of Nature to the best of its ability. Apart from being a vegetable curiosity, the example should have for the plant physiologist intense interest, because it shows that there are conditions of existence in plants when surroundings are not favourable, that compel them to change their nature or operations, yet remain absolutely true to their kind.

The specimen illustrated is but the lower portion of the stems of a Potato plant, divested of leaves, but all the stems for more than double the length shown were equally tubered. The example was found in August last in a field attached to the ground of Regent House, Surbiton, Surrey, by Mr. Forbes, the gardener, who gave it to me. The variety was the well known Beauty of Hebron. There were in the breadth just a few others similarly tubered, but in much less degree. Nothing definite could be found to show the cause of the withering of the bark round the stem beneath the soil, but it may have been caused by the depredation of some grub or perhaps wireworm.

In any case the bark became injured, and the result was that the tuber-forming sap elaborated in the leafage could not continue its downward course to form a good crop of tubers underground, but was checked or arrested by the lack of continuity in the bark of the stem. The result was as seen, in the development of real but aerial Potato tubers, from the buds at the axils of the leaves, thus showing, as has been so often stated, that Potato tubers, so called, are not real tubers after all, but merely clusters of fleshy plant buds. It need hardly be said that the tubers found under the stem were few.—A. D.

ONIONISM.

WHETHER Mr. W. Pea is correct in giving it as his opinion that Onionism is a new cult, or a developing mania, I am not prepared to argue; but it is no doubt true that more gardeners are annually adopting the principle of forwarding at least a portion of their crop by sowing in boxes during January or February. I should certainly think Mr. Pea justified in describing it a tendency to tall talking, when a bed of Onions averaging $1\frac{1}{2}$ lb. each bulb is called picklers. At the same time, it estimates more or less correctly the ambition of the man for Onion advancement in the matter of size. Mr. Deverill of Banbury has done much in popularising this phase of Onion growing in the raising and selection of superior stocks, and at the same time

offering prizes for the best among his patrons. Messrs. Bowerman, Beckett, Lye, Kneller, Wilkins, and Pope are a few among many others whose names are familiarly associated with Onions of large type, and it must be honestly admitted that these giants of the vegetable garden command an admiration equal, and often superior, to any other kind staged in the vegetable classes at shows.

A good Onion bed is invariably held as the pride of the garden, all classes of growers devoting more than ordinary attention to the preparation of the ground intended for them. The present season has had a varying influence bearing on this crop; in very light and poor soil they are small and prematurely ripened, and in ground deeply trenched and well manured they are better than is usual. My bed—sown with Ailsa Craig, Brown Globe, and Rousham Park—realised by measure 5 bushels to the perch, and by weight about 2 cwt., the total of the bed being 2 tons. The bulbs are of good size, solid and well ripened, these conditions being favoured by the great tropical heat and the dry state of the ground. Mildew, which in some years commits such havoc, was strangely absent, and to some extent this accounts for the greater weight yielded.

Another smaller bed was divided between an outdoor sowing made in March, and one sown in boxes and placed in a cool house in February. The difference between the two is very marked; some, indeed many among the latter, would weigh nearly or quite 2 lbs. The average of the outdoor ones may be half a pound each. The difference is brought about solely by the early sowing, which was thinly made, so that none but a final transplanting was needed, and that early in April. As in the case quoted by Mr. Pea, no water, either manure or clear, was given artificially from the time of planting until they were drawn in September. What size they would have attained under high feeding in a liquid state I will not venture to estimate.

It is strange that a difference measured only by such a short extension of time in sowing, should be so easily secured in the size of the bulbs, the preparation of the ground being the same, and the treatment during the growing period identical. Where Onions are valued for cooking as a vegetable this method is well worthy of attention, and for exhibition purposes it need scarcely be said to be absolutely essential. It would be folly itself for the man who depends on outdoor sowings to enter into competition where the Onionism mania is in evidence. The man of tall talk might reasonably exclaim, What picklers! At the same time, I believe the day is far distant

when indoor sowing and early planting will be largely and universally adopted, for whatever might be said in favour of the practice for special purposes, smaller bulbs are the more economical as applied to ordinary kitchen use, and they keep better when stored for the winter and spring.



FIG. 43.—STEM-TUBERING POTATO.

One very important point to be borne in mind is that of avoiding thick sowing in the boxes, and to bring on the plants slowly by providing a suitable position in a fairly cool house, where their progress is not hasted at one time and crippled at another by extremes of temperature. Onions when in growth are very sensitive of extremes, and in too much heat they quickly elongate, and the tops fall over, which at once proves fatal to their sturdy advancement. With abundant ventilation, a position near the glass, and plenty of room to develop, the plants maintain an upright carriage, and are then at the proper time in good condition for planting. The boxes filled with a rich and tempting mixture encourage a free root growth, and the drainage should be largely made up of the coarser particles sifted out of the soil used, or half-decayed leaves would answer the same good purpose. Shallow boxes, too, are much to be preferred to deep ones; for these, or seedling plants of almost any kind, a depth of 2 inches is ample. The soil does not become so quickly soured, and the plants can be removed for transplanting easier than is possible where a greater depth of soil is allowed. If anyone doubt this, they have only to prove for themselves by comparing results in the spring months.

In dealing with the big Onions grown by Mr. Bond (page 201) I note Mr. Pea says he is a soil-worker of the most pronounced type, "is at it all the winter, scuffling it, worrying it, working in soot, lime, and burnt rubbish of all kinds, not to speak of a coat of manure between each two spits." Both Mr. Pea and his friend must needs find some qualification for this continuous tillage, among those at least who have a heavy soil to reckon with, for I fear in their case this scuffling and worrying, if carried out, would lead them into difficulties, and without perhaps reaching the goal pitched in the distant summer month that furnishes the 2 to 3 lb. bulbs. The deep trenching, rough surface, and manure coat between the spits is quite admitted, and so are the ingredients prescribed for the surface to be worked in; but why, and what gain comes from the scuffling all the winter? Is this not better left until the time of, or just prior to, the sowing of the seeds?

By specialists in Onionism large bulbs have been raised for years on similar lines to that adopted now, and I think it might be interesting to many readers if record could be furnished showing the advance in size over that obtained, say, ten years ago. I am inclined to think the climax has been reached, and it would be difficult to break the record of the past by another pound, or perhaps half that weight.—W. S. Wilts.

THE HISTORY OF THE SOILS OF THE BRITISH ISLES.

(Continued from page 201.)

RIVER-SIDE BOGS.

THERE are peaty and boggy deposits found contiguous to many rivers, the result of ancient inundations; and when obstructions took place and accumulations of vegetable *débris* were formed, which, intermixed with silt and the subsequent growth and decay of aquatic vegetation, produced the river-side bogs, so frequently met with. The soil of these river-side bogs is often of great use in gardening operations, being favourable for American plants, except when impregnated with lime from the drainage of neighbouring limestone hills, in which case they have to be employed with circumspection.

Although all are compact and made up of exceedingly minute particles, clays nevertheless present many points of difference, both in the possession of certain mineral qualities as well as in structure. Sedimentary clays, like the lias, show the origin of the deposit in their laminations, the daily settlement of the fine mud, first held in suspension by the liassic sea. Bands of fossil shells also occur in the lias, tending to enrich it. With the lias may be classed the Kimmeridge, and the gault, and some of the clays of the coal measures. Clays of the weald are somewhat similar, containing organic remains.

The boulder drift clay differs considerably from the foregoing; it may be called a washed clay, it being the result of aqueous action, and shows in large rounded stones, fragments of flint, abraded fossils taken from older clay beds, the tremulous and violent character of that action. In composition it differs from the sedimentary clays, being coarser, much blended, and not laminated like the lias. The plastic clays of the permian and trias differ from both the classes named above, being homogeneous in character, free from fossils, and stained with peroxide of iron, which produces the redness that characterises them. While the lias is rich in carbonate of lime, these clays contain but a small quantity of the sulphate of lime and no bi-carbonate.

Even from the above short description it will be seen that in the management and amelioration of clay soils the same methods cannot invariably be pursued. For instance, conversion by burning, which can be done with great advantage with the lias clay and those similar to it, has a result far from commensurate with the expense in the case

of some of the plastic clays impregnated with iron, which when calcined often prove rather injurious than beneficial employed as a dressing on land or for garden purposes.

Only next to clays, and associated with them, is the substance called marl. It is a soil much less general in its distribution, and limited in the extent of its deposits. It is composed of an admixture of clay, or very strong soil, and lime, the latter often predominating. This calcareous portion, borrowed from one of the limestone formations, or from other sources rich in the same ingredient, and amalgamated with clay, is tempered and deprived of its causticity by the intermixture that has taken place, and may be readily employed in the dressing of lighter soils in orchards and kitchen gardens.

An account of soils for garden purposes would not be complete without allusion to sand, of which a very great variety exists, differing in colour, in purity, in the size of its grains, variously derived from granite, quartz, sandstone, silica, grit, limestone, from which sources it has either been washed out or ground by attraction, or formed by the ceaseless wash of waves on a shingly beach. Sand in its pure state is a substance of the first importance to the gardener, being essential in many of his composts. It is coveted most by those to whom it is the least accessible.

The pure silver sand of Bedfordshire and Buckingham is almost wholly made up of silica, its purity recommending it for admixture with peaty soils used in potting. The coarse red sands, tinted with oxide of iron, are to be avoided for such purposes, as are the sands derived from limestone. As an instance of the value of an evenly granulated sand suitable for casting purposes, the owner of a pit in which a large deposit was found made by its sale £2000 per acre, the original cost having been £10! Sea sand, from old sea banks, is of great value in horticultural practice.

We will now give a short recapitulation of the substance of our articles on soils with the classification we have adopted.

Under the head of primitive or natural soils we have placed all those derived directly from the disintegration of the rock or formation on which they rest without admixture of extraneous matter.

Loam we have described as a fertile soil, invariably a river or estuarine deposit, containing the distinctive matters of the formation through which the streams have passed; essentially a compost formed by natural agencies and enriched by organic matters of both land and water.

Alluvium is distinguished as a marine deposit formed on a shallow and shelving sea coast or bay or estuary into which rivers have conveyed the lighter sediment of the land, and which, instead of settling at one spot, have been dispersed by the action of the waves over a wide area, the whole being intermixed with the organic waste of the sea, often resting on beds of gravel or sand, or both. Peat we have defined as a silicious soil with the fibrous remains of vegetation, dark in colour, naturally poor, and free from lime, Heather, Moss, Ling, Gorse, and *Vaccinium* having supplied in most cases the vegetable matter of which it is partly composed, varying in quality, and partly dependent on the base on which it rests.

Bog soil, although partly composed of the vegetable matters that form peat, differs in many important particulars. It is the result of the accumulation and decay of vegetable matter in hollows and low positions, and generally saturated, sometimes formed by the submergence of forests and the subsequent growth and decay of moss and aquatic plants.—P. T. INGRAM.

(To be continued.)

TOMATOES FOR EARLY FRUITING.

IF fruits are required for use or exhibition next May the present may be considered a good time to sow. Tomato plants stand the winter best when they can be grown through the earlier stages of their existence in a moderately cool house until necessity compels their removal to a shelf near the glass in a warmer structure. As soon as the seedlings have a couple of rough leaves pot in 60's and place in a half-spent hotbed frame; one that had been used for the August propagating would answer very well. The frame should be kept close and shaded during bright sunshine, and cover the glass on cold nights. Water the plants after potting, and afterwards with much discretion, to prevent damping. The soil well suited for Tomatoes is turfy loam, leaf soil, and refuse from a spent Mushroom bed in equal parts, pressing it firmly to encourage sturdy growth. When the roots are well through arrange the plants near the glass in a light house with a temperature of from 50° to 60°. Beware of starving the plants at all times, but never give large shifts when potting. The Tomato needs during its winter career slight shifts, a happy medium in temperature, and all the light possible, that it may emerge in spring firm and stocky, instead of being so drawn and attenuated that they have to be manipulated round their permanent pots, and a little deception practised to induce the observer to imagine they are ideal plants. By all means avoid this with good culture. Varieties to grow are so numerous and good that I only name two that have come out well in trials of several—viz., Webb's Regina and Vick's Criterion, both of which proved excellent growers and free setters during a period of more darkness than daylight.—AN OLD GROWER.

BIG POTATO CROPS.

I WROTE (on page 206) respecting the method of propagation adopted by Mr. Pink when he produced that marvellous crop of Potatoes in 1876 from memory, and in the firm belief that it was the process employed, not only by him, but by others. Of course I would not for one moment think of setting my memory against that of the eminent Canterbury horticulturist whom Mr. W. Pea quotes with such extreme confidence and trust. I was at the South Kensington meeting when the huge heaps of Potatoes were shown, and I conversed with Mr. Pink, Mr. Bellis, and others of the competitors, all about the methods employed, and, so far as my recollection serves, I believe I am right. Perhaps if the Editor will look up some of the numbers of the Journal of that day he may find statements relating to the matter that would settle the question definitely.

The plan of scooping out the eyes mentioned, and the same as was employed by Mr. Forbes at Surbiton, could not from 1 lb. of tubers have produced at the very most more than some fifty distinct plants, even from the coarse Eureka, and for fifty plants to have produced 647 lbs. necessitated that each plant should produce about 13 lbs. However, the prizes offered, and the wonderful production which followed, beyond establishing a record in Potato production, did no good. The bulk of the tubers would have made useful cattle food, and probably that was their ultimate use. Temporarily it may have answered a certain trade purpose, but it was very temporary indeed. The days are passed when sums ranging from 1s. 6d. to 5s. per lb. were asked for new Potatoes. It was in the days when Americans were in the ascendant. Now that our own are so much superior purchasers grumble to pay 6d. per lb.—A. D.

On referring to past volumes we find that the "large heaps" were placed in competition for the Hooper prizes at South Kensington on November 10th, 1875, but the prizes did not appear to have been awarded when our reporter left the exhibition. We very well recollect the piles of coarse tubers and the delay in announcing the awards, but the reason for this delay cannot be remembered.

We find in our issue of January 20th, 1876, a review of what was termed a "sensational pamphlet," entitled "How to Grow One Thousand Pounds of Potatoes from One Pound of Seed. By James Pink." The author failed in showing that he had done this, but he did show that he in some way obtained 121 plants from a pound of Eureka tubers, or tuber, for we find a record of tubers exceeding a pound in weight.

"A. D." and others may be interested in a little citation from the review. After some sentences of complaint "in the interests of truth, and for the benefit of horticulture," Mr. Pink goes on to say that he "had not the remotest idea" of writing the pamphlet until "discredit was thrown on the successful competitors by the following report, which is said to have appeared in the 'Gardeners' Chronicle' after the show of 'huge heaps.'"

"We should not be surprised if the course taken by the judges does not lead to a considerable amount of discontent; but for the present, at all events, has closed one of the greatest horticultural farces ever put before the public, and it is difficult to perceive how, by any possible means, this competition can ever be of any benefit to horticulture."

On this we commented:—

As to the "discredit," that clearly refers to the scheme, and not to the men who carried it out; as to the predicted "discontent," the pamphlet proves its existence, while it fails to prove that the competition will or can "benefit horticulture."

In the "interests of truth," we may give Mr. Pink the fullest credit for the legitimate way which he carried out his experiments. We accept his weights to the last ounce, and recognise his cultural skill in producing his sensational crop. He reveals a good knowledge of Potato culture by deeply working the ground and adding to it the following manures:—"10 bushels of wood ashes, 10 bushels of leaf mould, 1 bushel of soot, 4 lbs. of sulphate of ammonia, 6 lbs. of sulphate of soda, 10 lbs. of nitrate of soda, and 10 lbs. of sulphate of potash," to 8½ perches of ground, further dressing with "50 lbs. of superphosphate of lime previous to the final earthing-up of the plants."

The pound of Snowflake was cut into eighty-two sets, and Eureka into 121 sets, a further pound of Brownlee's Beauty being cut into forty-three sets to occupy the remainder of the ground. The sets were planted on April 3rd in drills 3 feet apart, and the same distance between the sets. On August 6th the crop was taken up, the Eureka produce weighing (according to the pamphlet) 672 lbs.; Snowflake, 405 lbs., and Brownlee's Beauty, 290 lbs. The 3 lbs. of seed thus yielding, not 3000 lbs., but 1367 lbs. of produce, or, including the diseased tubers, the average may be put as half the standard weight, or 500 lbs., instead of 1000, per 1 lb. of seed.

In seeking to prove the great public value of the system detailed in the pamphlet, the author takes his stand on the old aphorism of "making two blades of grass grow where only one grew before," and hence he concludes that "the competitors have done good service to horticulture." Let us test the soundness of this premise. The "two blade theory," like other two-edged blades, cuts both ways. Before the grass can be beneficial it must possess the quality of being "good to eat." Most dwellers in the country have seen two, and many more than two, blades of grass grow where only one grew before, and they have also seen the cattle avoid these rank knolls which have been scattered over the pastures, even when the animals have been starving through want of food. Where that is seen it is regarded by the agriculturist as the result of neglect, and betokens bad management, because the elements of the soil and manure are wasted, and the additional grass represents loss instead of profit.

The value of the varieties are assessed according to their number of eyes, Eureka heading the list with 121 eyes. But is that any real gain? is it not rather a substantial loss? The superiority of a tuber is generally expressed as having "few eyes;" but here for the first time in Potato history "many" eyes becomes a virtue. It is a virtue, however, that ordinary observers and

impartial judges—those whose first study is the interest of the community—will not and cannot recognise, and hence the unanimous verdict of the visitors in regard to the many-eyed monsters exhibited at South Kensington—a verdict which may be truthfully entered in three words—words that were repeated again and again throughout the corridor—"Fit for pigs."

As to offering prizes of the nature of those championed by Mr. Pink in his pamphlet, they can no more "benefit horticulture" than would prizes for the greatest weight of Cabbages from an ounce of seed, where Robinson's Champion Cattle Cabbages would inevitably triumph, while Early York and other small sorts of superior quality would have to hide their "diminished heads" and be dishonoured.

To the above, which appeared on 20th January, 1876, we may add another "find" which puts Mr. Pink's exploit of 672 lbs. in the shade. On page 252, *Journal of Horticulture*, September 16th, 1875, Mr. F. Ford, writing from The Gardens, Capesthorpe, stated that in the presence of the agent he weighed and planted 1 lb. each of Snowflake and Eureka on April 13th of that year; that Snowflake was lifted in the presence of the agent and other witness on August 13th, the produce weighing 638 lbs.; Eureka being lifted a week later (and here is the "record") the crop weighing 1082½ lbs. It is also stated that 300 tubers of Eureka weighed 369½ lbs. Mr. Ford indicated his intention of competing for the Hooper prizes. Did he do so, and if so how came 672 lbs. of Eureka to beat 1082½, weight being the determining factor? Mr. A. Dewar, according to the directory, appears to be the gardener at Capesthorpe now, and it may be wondered if there are any "witnesses" left of that extraordinary yield. It exceeds all others that we have seen in print, even Mr. H. C. Pearson's Pitcairn, New York, of 1018 lbs. in 1874.

The offer of 50 guineas in prizes in the competition in question was obviously to create a demand for American Potatoes at inflated prices; and it may not be without interest to note that Messrs. Hooper & Co. published the following list (*Journal of Horticulture*, June 17th, 1875) in order that "no exhibitor might be disqualified by the presentation of sorts not American." Alpha, Eureka, Snowflake, Brownlee's Beauty (syn. Vermont Beauty), Extra Early Vermont, Compton's Surprise, Early Gem, Late Rose, King of the Earlies, Climax, Bresee's Peerless, Bresee's Prolific, Early Goodrich, Garnet, Chili, Peachblow, and Early Rose, arranged in order of date of introduction, reading the names backwards, Early Rose being the first arrival, and the others following upwards and onwards as long as the craze lasted, to the disgust of the then "Upwards and Onwards" of this Journal—the present Robert Fenn. "A. D." is right in his surmise that the dear Americans were increased by cuttings like Dahlias, whether Mr. Pink resorted to the practice or not, because we have seen the topping and striking in progress.

JOTTINGS.

LOOKING round the gardens at Impney the other evening, with Mr. Jordan, various things arrested my attention, among which was a large collection of *Primula obconica* in flower in the new range of houses. The effect produced by their delicate tint was very pleasing, and amply demonstrated that these plants are, like many others, most effective when in masses.

Carnations in pots are becoming plentiful at Impney, and the new bright crimson variety, "Yuletide," obtains a place. The cheerful looking *Celsia cretica*, the lovely rose coloured *Plumbago rosea*, and the crimson bracted *Poinsettias* are there in quantity and in robust health and vigour.

In the greenhouse was a splendid display of Zonal and Ivy-leaved *Pelargoniums*, with masses of *Chrysanthemums* Madame Desgrange and G. Wermig. The collection of Orchids increases in health, number, and floriferousness. Foliage plants, also, are abundant, clean, and well coloured.

In the vineries the Grapes are abundant and of excellent quality. The Muscat of Alexandria is superb in colour, having the delicate clear pale amber tint so often aimed at but seldom obtained.

Outdoors on the walls were two Princess of Wales Peach trees bearing large crops of fruit, likewise Barrington and Lord Palmerston. Pears are abundant of Ne Plus Meuris, Marie Louise, Duchesse d'Angoulême, Fondante d'Automne, Glou Morceau, Beurré Diel, and Louise Bonne de Jersey.

Mr. Jordan has re-formed the Rose garden and planted the varieties in masses and long lines, and grand they look. The Roses are robust, clean, and very floriferous, and a delight to the eye. The Rose garden alone is most creditable to the gardener, but Mr. Jordan makes his presence felt in all the departments of the famous Impney gardens.

I was greatly pleased with the tuberous *Begonias* grown by Mr. C. H. Harvey of Haymills, near Birmingham, when calling recently. Unfortunately I have lost the list of names of the best varieties I then saw, but the collection generally was something of which he might properly be proud. Mr. Harvey is a good example of the painstaking British artisan, who does well whatsoever he takes in hand. *Chrysanthemums*, *Begonias*, *Gloxinias*, and *Tomatoes* are his favourites, and he can hold his own with these things against many professional gardeners.—J. UDALE.



WEATHER IN LONDON.—There has been practically no change in the weather since Wednesday last. Both the days and nights are gradually becoming colder, and each morning brings with it a mist that produces quite an autumnal appearance. There have been very slight morning frosts on one or two occasions. On Tuesday evening rain commenced to fall, but only continued for a very short time. Wednesday was bright and clear, and the wind cold.

— THE DROUGHT.—Gardens in this district are suffering severely from the long continued drought. Grass is burnt up, and it is only in shady positions that a few green blades can be seen. Vegetables that cannot be watered are practically at a standstill, while caterpillars are active upon the leaf tissues. Celery is much affected with the fly, quite as much as when the season is a damp one. Vegetable Marrows and Kidney Beans have required water every day for weeks in order to insure some produce from them, and Pears are late in ripening because of the deficiency of moisture for the roots.—S., *Gravesend*.

— MINIATURE PETUNIAS.—I am sending for your inspection a few seedling single Petunias, which I think you will be pleased to see. They are attractive shades of carmine rose, with well defined white throats; the flowers are fairly good in outline, and being borne on dwarf, sturdy habited plants, are very striking. The colours remind one very much of some of the bright carmine tints of *Primula sinensis*, and when viewed by gas light are particularly pleasing. I am hoping to be able to improve on them as to increased size, but, of course, this will take time.—JOHN E. JEFFERIES. [We are not certain that any great increase in size of these dainty little oculated Petunias would add materially to their beauty. We have seen plants with flowers similar to those sent in dwarf dense masses, and thought them highly attractive. By all means effect what improvements you can.]

— MERCURY.—This hardy perennial, botanically termed *Chenopodium Bonus Henricus*, and commonly known as Good King Henry, is, I imagine, made very little use of as a vegetable. It is supposed to be at home in Lincolnshire, and to be largely used by the poorer folk. I understand that by a system of earthing the beds in the spring the young growth is blanched and can be cut and used in the same way as Asparagus. Also the leaves are said to be used in a similar manner to Spinach. I have seen a bed in a gentleman's garden, but though kept weeded and cleaned, the produce was never put to any use. The plant is deep rooting, and therefore when once established is indifferent to dry seasons such as the present. I should like to know further of its merits as a culinary vegetable, and any particulars from persons acquainted with its culture and mode of cooking will be interesting and instructive to many more besides myself. Can Mr. W. H. Divers of Belvoir Castle, or any other Lincolnshire readers of the *Journal of Horticulture* tell us anything about it?—HENRY KING, *Notts*.

— MELON CACTUS.—This class of the Cactus family, usually round, or as we might say, Melon-shape, produces a dense mass of small spines at the crown. This mass has very much the appearance of a covering of moss. The flowers, appearing among this mass, are not showy generally, but the crown always gives an interest to this class of the family. One interesting feature, however, is the production of reddish or purplish fruit. This fruit appears about the same time as the flowers. It is not generally known, says "Meehan's Monthly," that the fruit of this class of Cactus takes a whole year to mature. The flowers are, of course, fertilised at the time of opening, but after that time the ovary or seed-vessel remains wholly dormant. It simply makes a green speck at the bottom of the faded flower. About the time when flowering is again resumed, this green speck develops and the mature purplish fruit is the result. This long resting season of the fruit is not peculiar to a class of Cactus. There are many similar instances in other families of plants, but it is still a fact of great interest to those who study the life history of plants. All motion is rhythmic. Advances are always by leaps; but there is a vast difference in the degree, and rests between the lines are sometimes of but a few hours' duration; at others there are weeks of intervals, and then again, as in this Cactus illustration, a whole year of rest.

— BEGONIA WORTHIANA.—By a misprint in a paragraph relating to a Begonia at Madresfield Court in last week's issue, this variety was referred to as Northiana. Probably most readers understood the error.

— SHIRLEY GARDENERS' ASSOCIATION.—The monthly meeting of above Society was held at the Parish Room, Shirley, Southampton, on the 19th inst., there being a very fair attendance of the members, Mr. B. Ladhams, F.R.H.S., presiding. The subject for the evening was "Vegetable Culture," the lecture on which was given by Mr. George Garner, Cadland Park Gardens, Hythe, Southampton. Needless to say the essayist dealt with his subject in a thoroughly practical manner.

— EARLY FROSTS.—From various parts of the country we have heard of frosts of sufficient severity to turn Dahlias and other tender plants quite black. On two or three occasions within the last seven days 5° and 6° of frost have been registered, and of course the most damage has been done on low-lying grounds. A letter from Yorkshire, dated the 26th inst., says that "bedding plants are bright and fresh, and the grass quite green," which is more than can be said of most places in London and the southern counties generally.

— SOIL FERTILITY.—Of the various food materials required by plants for their normal growth and development there are four of which an available supply in the soil is usually very restricted, and of which a reserve is thus liable to run short if the land is not properly looked after. These substances are nitrogen, potash, phosphoric acid, and lime. Of these the nitrogen and phosphoric acid are the more valuable, and consequently more expensive to replace when removed from the soil by crops. The quantity of phosphoric acid naturally present in the soil is usually so limited that this plant food constituent has been well described as the "weakest" link in the chain of soil fertility.

— HOW THE ORCHARD THIEF WAS CAUGHT.—An amusing incident occurred the other evening in the grounds of St. Joseph's Retreat, Highgate, London. It appears that a gardener saw a man in the upper portion of the extensive grounds engaged in "scrumping"—i.e., Apple stealing. He informed one of the reverend fathers of what he had seen, and the two went together towards the spot at which the man had been seen. The thief, however, was on the alert, and as soon as he caught sight of them he made off rapidly, the gardener and the "father" pursuing him. Presently the thief came to a fence, which he cleared, but, as he had not looked before leaping, he dropped into a huge butt of water on the other side. He was hauled out by his pursuers, drenched with evil-smelling rainwater, and was given into custody.—("Gardeners' Chronicle.")

— HIBISCUS PUNGENS.—For several months past this gorgeous flowered species has been producing its blossoms freely in the Mexican house at Kew, and there are still a large number of buds to open. It is a Chinese species, and is very like, if not identical with, *H. Manihot*. The leaves on a free growing specimen are large and handsome, often being from 9 inches to 1 foot across. The flowers are produced from each node on the upper half of the current season's growth. They are primrose yellow with a dark purplish blotch at the base of each petal, and each flower measures from 5 to 6 inches across. To have it at its best it should be planted out, but can be grown successfully in pots; the main thing is to keep it growing freely all the summer, rest it in winter, and cut it back in spring to within an eye or two of the old wood. A group of this plant studded with numerous large flowers is very pleasing, and, being somewhat rare, would be a good addition to an intermediate house.—K.

— DISAPPOINTMENT WITH STOCKS AND ASTERS.—I, like "G.," (page 186), have had many single Stocks where doubles were expected. One of the best varieties of all, in my opinion, was the East Lothian some fifteen or sixteen years ago, when there were scarcely any singles. To-day, however, 60 per cent. are single. The seeds were sown last August. Can any reader of the *Journal* give any cause for this deterioration? Has the competition anything to do with the extra number of singles? I find that Stocks are not alone on the down grade. Four years ago I grew Comet Asters. The flowers were simply grand; but the next season 60 per cent. had large yellow eyes, and only about 10 per cent. the true character. I tried again 1897, and the result was so bad that this year it was discarded. No doubt some people will put down the failure to indifferent culture. I can only say that the beds of failures were in better condition than the beds that produced superior flowers. Short decayed manure and burnt garden refuse, with deep digging and well breaking down the clods in the process, will generally produce good results.—GEO. PICKER.

— **DEVON GARDENERS' ASSOCIATION, AUTUMN PROGRAMME OF SESSION 1898-99.** Meetings to be held in the Council Chamber of the Guildhall. The chair to be taken for each meeting at 8 o'clock prompt. Wednesday, 12th October, Mr. Andrew Hope, Hon. Sec, "Flowers that Bloom in the Spring;" Wednesday, 26th October, Mr. George Lock, Newcombes Gardens, "Vine Culture;" Wednesday, 9th November, Mr. F. Edwards, Honeylands Gardens, "Deciduous Trees;" Wednesday, 23rd November, Mr. F. W. E. Shrivell, F.L.S., Thompson's Farm, Tonbridge Kent, "Further Experiments with Chemical Manures Applied to Garden Crops" (these experiments have been carried out by Dr. Bernard Dyer and Mr. Shrivell, in Kent); Wednesday, 7th December, Col. Walker, Lee Ford, Budleigh Salterton, "The Honey Bee, and why it should Interest Gardeners."

— **HONEYDEW.**—In the "Bee-keeper's Record" Mr. Brice combats the idea that this is either a dew or a secretion from aphides. Microscopical examination of thickly coated leaves of Lime and Sycamore revealed not more than three or four insects on some leaves, while an hour after, the insects having been removed, the beads of honeydew were decidedly thicker than when first gathered. He concludes that certain atmospheric conditions charge the cells of some leaves with saccharine matter, which on a change of temperature cannot be absorbed by the ordinary channels rapidly enough. As a consequence there is a rupture of the cells, or a copious exudation through the pores of the leaf. Aphides, of course, are attracted to it, and also bees. The fact that honeydew from the Oak and Sycamore is darker than that of the Lime proves that it partakes of the nature of the tree, not of the insects. —ENTOMOLOGIST.

— **CRINUM MOOREI.**—Of the many beautiful species of Crinum in cultivation few, if any, are so easily grown or give greater satisfaction than this. It is a S. African plant, and almost hardy, for if planted at the foot of a warm wall, and given a covering of dry leaves about the bulbs on the approach of frost, it will stand through ordinary winters uninjured. For the greenhouse it has two recommendations, the foliage being decidedly handsome—leaves being 3 feet long by 6 inches wide—and the flowers pretty and abundantly produced. The flowers are borne in large umbels—from eight to sixteen flowers in each—on peduncles 2 feet in length. They are slightly pendulous, bell-shaped, 5 to 6 inches across, and bright pink in colour. When grown in pots they should be given rich soil, and fed through the growing season. When planted out growth is usually much stronger and the inflorescences larger, and produced with greater freedom. Masses of seven or eight bulbs continue to bloom for four or five months during summer and autumn. There are several varieties cultivated, the two best being C. Moorei var. alba and variegata, the former having pretty pure white flowers and the latter golden variegated leaves.—D.

— **HOVE HORTICULTURAL AND INDUSTRIAL SHOW.**—The twenty-first annual exhibition of the newly incorporated town of Hove, held at the Town Hall on Wednesday and Thursday, September 21st and 22nd, was in every way a great success. The entries were numerous, the weather was delightfully fine, between 4000 and 5000 persons visited it each day. In the classes devoted to gentlemen's gardeners and amateurs there was keen competition. For hardy perennial and bulbous flowers.—First, Mr. E. Meachen, Woodslee, Brighton; second, Mr. F. Raply, St. Johns, Withdeane, Brighton; third, Mr. H. Harris, Denne Park, Horsham. Six table plants.—First, Mr. E. Lawrance, Tanbridge, Horsham. For a collection of fruit, four varieties.—First, Mr. H. Harris, with good Muscat of Alexandria Grapes, Barrington Peaches, Pitmaston Nectarines, and a Melon. Second, Mr. G. Stovell, Withdeane Grange, Brighton. For a collection of Apples, six varieties.—First, Mr. G. Stovell with Warner's King (very fine), Bismarck (good), Mère de Ménage, Worcester Pearmain, Emperor Alexander, and Cellini. Second, Mr. H. Harris with Warner's King, Peasgood's Nonesuch, Lord Suffield, Ecklinville Seedling, Gascoigne's Scarlet, and Cox's Orange Pippin. Grapes, white.—First, Mr. Harris, good Muscats. Black Hamburgs.—First, Mr. J. Pearl, Withdeane Lawn, Brighton. Any other black.—First, Mr. E. Lawrance, good bunches of Black Alicante; second, Mr. Jas. Hill, Springfield, Brighton. Mr. E. Meachen was first for a collection of vegetables, eight varieties; Mr. F. Raply second. Potatoes were very good. For a collection of six varieties Mr. F. Raply was first with Schoolmaster, Windsor Castle, Boston QQ, Sutton's Ideal, Sutton's Seedling, and Reading Giant, all good even dishes. Tomatoes.—Mr. E. Lawrance first with a very fine dish of Cannell's King of Tomatoes. The cottagers' and artisans' classes were well represented in window plants, "Geraniums," Fuchsias, Begonias, and Vallotas. In the ladies' classes were some very pretty baskets and epergnes.

— **A PROSPECTIVE WET WINTER.**—The newspapers have of late been speculating on the probable character of the ensuing winter, and intimate that during the coming three months of the year some 15 inches of rainfall are due. If that were realised we should have a wet time indeed. Without doubt a thoroughly wet winter is due, in the south of England especially. I do not by saying that mean in the course of seasons, but that it is due because of the altogether unusually dry condition of the soil. It is hardly needful to refer to the number of inches of which the year is deficient. There is no one who is not too familiar in a very practical way with the fact, and demonstrations of a statistical nature as to the deficiency are as needless as well can be. But badly as we need the rain we may well look with apprehension on so wet a time as a rainfall of 15 inches in three months would indicate. It would be indeed a soaking season, checking work, especially on the soil, and doing grave harm to the business of planting. On the other hand, a moderate rainfall of 5 inches spread over that period would do great good, and the deficiency could be so much better made up in January and February. However, we shall have to take it when it comes and as it comes. But has anyone ventured to contemplate the contingency—not at all impossible—of yet another dry winter, and even summer? Were such to be the case, bad as may be a soaking wet winter, the continued dryness would be far worse. Both contingencies are bad, and the least troublesome may well cause some anxiety.—A. D.

— **FORESTRY.**—Forest education of a scientific character has hitherto received as little attention in America as in this country, but its value, says a contemporary, is now recognised in the United States, and in April of the present year the New York State Legislature passed an Act authorising the Trustees of Cornell University "to create and establish a department in the University to be known as, and called, the New York State College of Forestry, for the purpose of education and instruction in the principles and practices of scientific forestry." In the same Act provision was also made to establish a Demonstration Forest of not more than 30,000 acres in the Adirondacks, to be purchased out of the funds set aside for the Forest Preserve Board, and to become the property of the Cornell University for the term of thirty years, and to be used for demonstrations of practical forestry. The sum of 10,000 dollars has been granted for the organisation and maintenance of the College and Demonstration Forest. This institution, the director of which is Professor B. E. Fernow, has been organised, and the prospectus shows that the college will furnish systematic instruction in the science and art of forestry. The provisions for teaching the science relating to forestry in the University are ample, while the connection of the demonstration area within the College of Forestry will furnish additional advantage for original work, research, and experimentation, in advancing the science and art of forestry. Some time must elapse before the College Forest is in the best shape for demonstrative purposes, but there is every promise that the institution will prove a success.

— **APPLE PRESERVATION.**—To keep Apples until "Apples come again" is a much simpler matter than is generally supposed. It all depends on the conditions under which packing and storing are conducted. Apples are damaged by the least knock or pressure; that is why so much of the imported fruit is found to be damaged. A bruise does not necessarily show at the time it is sustained, but it is manifest after the fruit has been kept. Mr. G. Manville-Fenn has shown in his happy story of market garden life, "Brown-Smith's Boy," how necessary it is to handle fruit tenderly, if it has to have commercial value, and where such care is exercised and proper steps are adopted for the storage of the fruit, Apples may be maintained in a sound condition—plump, juicy, and firm—right into the middle of the following summer. A dry, airy room, free from the taint of decomposing matter of any kind, is the one to use, and in this a skeleton network of frames for the support of racks should be erected. The fruit racks or shelves should consist of slips of wood running in parallel lines with sufficient opening between each to prevent the Apples falling through. When the fruit has been collected, it should be arranged on the racks, the Apples being placed close together so as to economise space, but with sufficient space between them to admit of air. Where increased space might be desired, the frames could be erected in rows along the centre of the room. This system of staging the shelves is very convenient, inasmuch as it renders the fruit accessible. Stagnation of atmosphere should be avoided without incurring the risk of draughts, and it is well, too, that the air should be kept as cool as possible. Considering the price realised for sound fruit in the early spring and summer, a little attention in the way here suggested, with the view of preserving part of the Apple crop, would, doubtless, produce an adequate return for those who desire to make every department of a well-ordered farm remunerative.—("Irish Farming World.")



NATIONAL CHRYSANTHEMUM SOCIETY.

ON Monday evening last the Executive Committee of this Society held a meeting at Carr's Restaurant, Strand, Mr. T. W. Sanders occupying the chair.

The usual preliminaries having been disposed of, it was announced by the Secretary that the prize money awarded at the recent September show of early Chrysanthemums, &c., had been paid, and that the following awards to miscellaneous exhibits were made by the Arbitration Committee—viz., small gold medals to Mr. H. J. Jones and Mr. T. S. Ware; silver-gilt medals to Mr. Green, Mr. Mattock, and Mr. Witty; silver medals to Mr. Chard, Messrs. Cannell, and Mr. F. W. Seale; small silver medals to Mr. Foster and Mr. Wells, and a bronze medal to Mr. T. Williams, all of which awards were confirmed.

It was resolved that the Catalogue and Classification Committee hold a meeting during the November show.

Mr. Waterer called attention to the prevalence of Chrysanthemum rust, and considered the Society ought to take some action in the matter, as it was of vital importance to all growers. Mr. Waterer gave his own experience of the disease, and was followed by several other speakers, whose experience seemed, in some cases, to vary. Finally it was resolved that a committee be appointed to engage an expert to lecture on the subject at a conference to be arranged for the evening of the first day of the October show. This course seemed to meet with very general approval.

New members were elected, and the Timaru Chrysanthemum Club was admitted in affiliation.

A meeting of the Floral Committee was held on Monday last at the Royal Aquarium, Mr. T. Bevan presiding. The meeting was a small one, there being but few members present, and a very small number of exhibits. Crimson Pride, a medium-size Japanese with flat, stiff florets, colour deep crimson, was commended. Yellow Queen, a pure pale yellow sport from Queen of the Earlies, was promising, and the Committee asked to see it again. Probably one of the best was Soleil d'Octobre, a finely formed Japanese with long drooping florets; colour very pure pale yellow with silvery yellow reverse. No certificates were awarded. Two new cups and tubes were exhibited, one by Mr. Burgin, the other by Mr. Wright.

SEASONABLE NOTES.

PROBABLY a few seasonable hints on Chrysanthemums will be appreciated by some readers, especially those whose experience in their cultivation is only of limited duration.

During the past few weeks growers have been busy securing those buds which practice and knowledge of varieties have proved give the most satisfactory blooms from the exhibitor's point of view, or where large flowers are required for decoration. The buds thus secured are mainly crown buds, these giving the largest blooms. Many varieties, including the majority of the incurved, will have had the terminal buds secured with the expectation that flowers of excellent quality will result. Japanese varieties, as a rule, produce the best flowers on crown buds, but where the plants are late in making their first break—that is, when the first crown bud is produced, which is invariably useless and is not wanted, the shoots which follow do not make a second crown, but end in a terminal cluster of buds. The central one of these should be retained, and the others carefully rubbed out with the side of the thumb. This is a far more expeditious and safer plan than using a penknife. Few, if any, plants will now be showing crown buds, the best time for securing them now being past, terminal growths taking their place. Flowers produced from terminals are usually smaller in size, but the colour and form are almost always superior. For this reason they are preferred when required as cut flowers, as well as to remain on the plants to embellish the conservatory.

Some Chrysanthemums are exceedingly effective when all the buds produced by terminal shoots are allowed to remain. Others need slight disbudding. As a rule, the smaller the size of individual blooms the less necessity there is to disbud. It then need only be practised when the plants are growing in pots.

Side shoots produced in the axils of the main leaves require constantly rubbing out, also sucker growths emanating from the base of the main stem or pushing from the roots. The latter must not be persistently removed when the flowering period is past its best, as such growths form the best cuttings.

The flowering stems must be kept properly secured so that no damage will be sustained by the buds. The largest of these must be kept in an upright position in order to develop equally and produce a well balanced flower.

Feeding the plants is important, as it is an easy matter to overdo it by giving stimulants too often or too strong. It is only plants that have filled the pots with roots that require or appreciate additional food. Feeding is seldom needed before the buds begin to form. Weak applications of liquid manure in a perfectly clear state should be given, alternating with clear soot water, and occasional sprinklings of concentrated manure at the rate of a tablespoonful to a 10-inch pot. Good liquid may be made from horse, cow, or sheep manure. A peck of either may be placed in a bag, which ought to be sunk in a tub containing 30 gallons of water. After standing a few days the liquid will be ready for use without, as a rule, any dilution being necessary. Soot also ought to be placed in a bag, using the same quantity as the manure to a 30-gallon tub of water.

It is best to supply these stimulants alternately, soot water one week, animal manure water another week, a sprinkling of artificial manure the next, but they ought not to be applied when the plants are extremely dry until a watering with clear water has been given. It will do no harm, however, if given to well-rooted plants that are partially, but not dust dry. To this last condition plants in pots ought never to reach, but if through any mishap it does occur, the best reviver is clear soft water.

Top-dressing is an excellent method of encouraging increased root action, thus imparting to the plants vigorous growth at a time when they most need it. The top-dressing may consist of loam, a little decomposed manure, crushed charcoal, sand, and a pound of some general artificial manure to 1 bushel of soil, the whole thoroughly mixed. Spread it on the surface of the soil in the pots, pressing firmly. Water the plants with a rosed can to avoid washing it away, continuing this until roots take possession. A piece of slate, or an oyster shell, is convenient to lay on the soil to help to distribute the water when applied from the spout of a can without the rose.

The active formation of roots results in some of them passing through the drainage and rooting in the soil below the pots. This may be prevented by occasional lifting and cutting off any roots which may have entered the soil. If allowed to root freely before detaching them a check is given to the plants when the roots are cut off, which must be done on removing them.

Good cultural attention given to the plants prevents insects attacking them. Earwigs are not so troublesome either when the summer position is selected away from hedges, shrubs, and trees. Should they be numerous take the usual precautions of trapping and destroying them. No dead leaves ought to be left on the plants, as they afford excellent hiding places for the marauders.

The necessity for housing the most forward plants is now imperative; those especially which are showing colour ought to be placed under cover, as moisture from dews or rain is likely to settle among the florets of large flowers, ultimately causing damping. Follow on with housing the rest of the collection as soon as possible. Exception may be made with the latest flowering varieties, which can remain out—if given slight shelter from frosts—some time longer. Before removing the plants inside examine the foliage for mildew. Some varieties are much subject to the fungus which may be found as a deposit on the under side of the leaves. Afterwards it may spread to the upper surface, also the stems and flowers. An application of sulphur will destroy it. Mix a good handful of sulphur in a 4-gallon can of soapy water and syringe this upon the plants, laying them down so as to reach the under sides of the leaves. The pots must also be cleansed from dirt before carrying them indoors.

The position assigned for the plants under glass must be as light and airy as can be secured. The plants ought not to be too close to the roof glass, because of the great variation in temperature and the excessive light when the sun is upon the house. A slight shading may require to be fixed to prevent damage by strong sunshine to fully developed blooms, and help to retain all in a fresh condition as long as possible.

Watering must be regularly attended to, examining the plants frequently to ascertain their need for moisture. The supplies of liquid manure may be continued to the plants until the blooms are well advanced, after which clear water will be best for them. The waterings ought to be given in the early part of the day, so that superfluous moisture may dry up in good time. Although Chrysanthemums are best in a cool, airy structure, there will be occasional need for a little artificial heat, especially where there is a predominance of large blooms. Moisture from the atmosphere condensing upon the florets and accumulating without corresponding evaporation is the cause of damping. The occasional use of fire heat serves to rectify this by causing a light and buoyant atmosphere to exist instead of close and muggy air. Ventilation should be constant, varying, however, more or less in accordance with outside conditions.—E. D. S.

FRUITING YOUNG VINES.

IN reply to Mr. Charles Colebrook's note on page 187, September 8th, regarding the young Vines that have done so well here, I have nothing to add to my statement in the *Journal of Horticulture*, October 28th, 1897, page 417, on my method of making up the border and planting the Vines. The only thing I can attribute to my success is attention in airing, watering, pinching and thinning the Grapes in due time.

The seedling Vine, referred to by Mr. Colebrook from Madresfield Court crossed with Black Hamburgh, is a strong grower: it resembles in shape of bunch and berry Madresfield Court, and the flavour is equal to Muscat of Alexandria; however, as this is the first year of fruiting I

term the "aristocracy" of the floral world. No wonder then that the bulb trade has grown to such enormous dimensions. Not many years ago the distribution of bulbs in this country was almost entirely in the hands of general nurserymen, now we have hosts of specialists who confine their trade principally to growing and exporting bulbs, and even in this country a considerable industry has sprung up in connection with the culture of Daffodils, for supplying bulbs for sale as well as cut flowers.

Notwithstanding the many failures which have been recorded in the attempts made to produce Hyacinth and Tulip bulbs of the finest quality in this country, I still believe the time is coming when we in England shall be able to turn much of the at present unprofitable land to remunerative account by growing successfully the good things our Continental friends are now pleased to send us. We admire their



FIG 44.—GRAPES AT HEWELL GRANGE.

hope to be able to say more about it another year. I am sending a photograph of the vinery which was taken a few weeks ago, with myself and dog standing at the end of house.—WM. K. PETTIGREW, *Hewell Grange Gardens, Worcestershire*.

[When Mr. Pettigrew described his practice of raising Vines in 1896 and bearing them heavily in 1897, we asked him in a footnote to oblige by reporting progress in 1898. He appears to be content, as he well may, to let the photograph speak for itself, and it will be conceded that it represents excellent work.]

BULBS AND THEIR CULTURE.

BULBOUS rooted flowers have long been especial favourites in all countries where gardening is cherished, for they supply us with some of the loveliest flowers in creation. Rich and poor alike can indulge in their culture, and fortunately many of what are termed "common species" can hold their own in point of beauty among what I will

scientific and systematic methods of culture, but Britons, though slow, do sometimes take a leaf out of their rivals' book, and when once they "mean business" in any particular direction, such trifles as so-called unsuitability of soil, climate, and other fancied difficulties of the pessimists are swept away by practice and determined persistency.

The time has now arrived when bulbs for early forcing should be potted without delay. I will therefore advance a few remarks about such work which will be applicable to the majority of bulbs, and in subsequent notes deal with their cultural requirements under the heading of each species. It is a well-known fact that unless we procure good bulbs we cannot have fine flowers, as the flower in the embryo is in the bulb, and whether that undeveloped flower is good or inferior its general character cannot be greatly altered by the cultivator. It must not, however, be supposed that any haphazard system of culture will bring good results as long as fine bulbs are obtained; they need to be subjected to such conditions as will enable the flowers to develop to their fullest extent. It is an easy matter to start with the best bulbs in the world and yet have

only stunted flower spikes, although in the case of Hyacinths the number of bells on a spike would plainly show what results might have been obtained had the treatment been suitable.

Bulbs of all descriptions should be unpacked as soon as possible after they are received, for if left in their packing material, especially if the weather is the least damp, they quickly become mouldy, and in some instances begin to rot. After unpacking, those not required for immediate potting should, if possible, be placed on shelves in a perfectly dry room, so that they may be kept firm and hard. When large quantities come to hand it is not an easy matter to find room for them on shelves; in such instances it is a good plan to place them in baskets, as the air can then play freely among them. Those intended for potting shortly after being received I like to expose to full sunshine for a few hours, as I often find when unpacking them that they feel somewhat damp and clammy, but after being exposed in the open air for a few hours on a dry day, or on the stage of a house where the atmosphere is dry, they become hard and firm to the touch, a condition "old hands" like to note when engaged in the work of potting or boxing.

COMPOST.

In preparing this, the principal point to bear in mind is to form a mixture in which the roots will work quickly, as when once abundance of these is secured it is an easy matter to feed with liquid or chemical manures to assist in developing the flowers to their fullest size and typical colour.

I am convinced that thousands of bulbs annually turn out comparative failures through using too much manure in the potting compost. In winter, when root action is comparatively sluggish, the young roots of bulbs will absolutely refuse to penetrate soil containing manure, especially when it happens to come in contact with the bulb. How many of us may recall to mind having at various times seen bulbs start promisingly, and then suddenly cease to grow. On turning such out of the pots it is no uncommon thing to find roots about an inch in length with the points browned or decaying, and numbers of minute insects preying upon them.

This state of affairs may usually be traced to the presence of unsweetened manure in the soil, with the hosts of insects such material always contains. In the case of later collections of bulbs which have been potted in similar compost the results may be satisfactory enough, because, when the days begin to lengthen, and the sun gets more power, root as well as top growth receives a greater impetus, and the plant is able to battle successfully against adverse conditions.

After trying many experiments to ascertain the most suitable compost for potting bulbs for early forcing in, I now adhere to a simple one, which I find answers admirably; it consists of rather light loam and leaf soil in equal parts, with a liberal addition of sharp sand. The loam should be stacked for twelve months previous to use, and the leaf soil be perfectly sweet and free from insects—that which decays while placed in thin layers is always better than that taken from a large heap several feet in thickness. If the latter must perforce be employed, I like to spread it out in the sun to get thoroughly dry before using it.

It is not everyone, however, who can obtain good leaf soil. An excellent substitute for it may be found in the dry portions of manure taken from the surface of an outside Vine border. If this was placed here six or nine months ago it will by the present time crumble easily when touched, and be perfectly sweet. Cocoa-nut fibre refuse also answers well.

POTTING AND BOXING.

Roman Hyacinths, Tulips of the Duc Van Thol type, and Paper White Narcissus, are well known as good bulbs for early forcing. When grown principally for supplying cut flowers the simplest and most convenient method is to set the bulbs in boxes. The depth of these $2\frac{1}{2}$ inches for Tulips and Hyacinths, and an inch deeper for the Narcissus. If the compost is passed through a three-quarter-inch sieve the rough portions answer for placing in the bottoms of the boxes, no other drainage being required. Over this a thin layer of the finer soil should be placed, the bulbs set so as to stand just clear of each other, and the interstices filled in with soil pressed firmly, the crown of the bulb being just covered.

Although it is a common practice in the case of Roman Hyacinths and Tulips, to lift some of the bulbs as soon as the flowers begin to show colour and place them in pots, I still like to pot some into their flowering pots in the first instance, for if the bulbs are evenly selected simultaneous flowering may generally be relied upon, and plants so treated last in flower longer than those transplanted. Six-inch pots are good ones to employ, and when the bulbs are packed in closely they will hold from seven to nine, a sufficient number to make a nice display in one pot, and one good potful is worth two or three thin ones.

After potting, the soil, if somewhat dry—as it ought to be—should be well watered, the boxes placed in the open air, and covered with a

layer of cocoa-nut fibre or coal ashes 3 or 4 inches in thickness; when the latter substance is used a layer of leaf soil ought to be placed on first to prevent the ashes from coming into contact with the bulbs, as ashes in a fresh state are injurious to the young growths of bulbs.—H. D.

(To be continued.)



ZYGOPETALUM GAUTIERI.

MANY of the species in this genus are very difficult to cultivate, but this pretty plant has of late been well grown in most collections. Several fine specimens I recently noted were doing grandly on Tree Fern stems, the roots evidently enjoying the natural roughness of this material. Though not a very showy plant, the subdued tints of its blossoms go well with other Orchids. The sepals and petals are greenish yellow marked with chocolate, the lip of varying shades of purple. The species is a native of Brazil, and was sent by M. Gautier to M. Verschaffelt, of Ghent, in 1867.

CATTLEYA LODDIGESII.

In its better forms this is a lovely plant, and some of the hybrids raised from it are also very fine. In a large collection the flowers will be found to vary very considerably in colour, the finest being those of the violacea type, with deep rosy tinted sepals and petals, and a bright purple lip. It is one of the easiest of species to grow, very free flowering, and it blooms, moreover, at a time when Orchids are scarce. It may be grown in an intermediate house, in pots well drained, containing a compost of rough peat and moss, with abundance of finely broken crocks and charcoal. It is very subject to the attacks of a troublesome white scale.

ONCIDIUM INCURVUM ALBUM.

This is a pure white form of the type, and a chaste and beautiful variety. In shape the flowers are exactly the same as the ordinary form, the only colouring being a yellow centre to the lip. The graceful spikes rise to the height of a yard or more, and are very freely branched. The plant thrives well in pots of medium size, in a compost of equal parts of peat and loam. Water must be very plentifully supplied while active growth is going on, but later while the flowers are open a drier atmosphere and less water at the roots are necessary. It must never be sufficiently dried to cause the pseudo-bulbs to shrivel.

ODONTOGLOSSUM BICTONENSE.

Although an old species, and in a manner looked down upon, the flowers look very pretty, and come in, moreover, at a useful time. The pseudo-bulbs are large, roundish, and bear a couple of large green leaves. The species is one of the most variable as to colour; the generally accepted type having yellow sepals and petals heavily blotched with chestnut brown, the heart-shaped lip rose colour. *O. bictonense* likes rather more warmth than the majority of kinds, and fairly large pots, the water supply being kept going well the year through. It is a Mexican species discovered by Mr. G. Ure Skinner, and sent home by him to Mr. Bateman in 1835.

ODONTOGLOSSUM GRANDE.

Without doubt this is one of the most useful and beautiful species in cultivation, and so easily grown that no one at all acquainted with Orchids need have any fear of not succeeding with it. The blossoms are so well known that I need not describe them, but give a few lines on its culture. With me it thrives admirably in a cool shady fernery, the house being below the surrounding level, and providing the kind of atmosphere *O. grande* delights in, and a similar one to that in which it grows naturally in Guatemala. As the roots are somewhat larger than those of *O. crispum* and its allies, a very rough compost may be given, the pots also being larger than those usually advised for these species.

The plants do not relish frequent disturbance, so when repotting is in progress let it be done thoroughly, and allow no old and sour material to remain about the roots. Better than this it would be to wash every root in tepid water, and cut away all decaying ones, but usually with care one may take out everything likely to do any harm. After potting give the plant a little water only until the roots are getting well into the new compost, but when growing freely an abundant supply is necessary, and this must be kept up until the plants have flowered and the new bulbs completed.—H. R. R.

NOTES ON ALPINE FLOWERS.

(Continued from page 190.)

CORNUS CANADENSIS.

THE Canadian Dogwood is a neat little plant possessing distinct beauties of its own, although not of a brilliant character. The flowers are purplish white, and the longer involucres white, giving the plant a distinct and pretty appearance when in bloom. The stems are herbaceous, and the ovate and pointed leaves are on short footstalks. As has been already said, the plant is neat and only grows about 6 inches high. It is of a creeping habit at the roots, and may be increased by division. A rather shady position in sandy peat is the most suitable for the Bunch Berry or Dwarf Cornel, as *C. canadensis* is also called. It is a native of northern North America, and was introduced about 1774. As a plant for the rock garden it is very suitable, and can be easily kept within bounds by means of a little attention.

CONVOLVULUS CNEORUM.

A note on this exquisite *Convolvulus* will serve a double purpose in perhaps inducing those with favoured gardens to try its cultivation, and in dissuading those whose positions are less suitable from embarking upon an attempt to grow it. So lovely a plant is worth a good deal of study and care; but, on the other hand, it is undoubtedly tender, and only suitable for mild localities—say, in the South of England and the South of Ireland, with perhaps a few exceptional places in the three kingdoms. Few who have ever seen it fail to be ecstatic over its beauty, with its pinkish flowers and lanceolate leaves so exquisitely covered with silvery silk tomentum. It is of a shrubby nature, and is said to grow from 1 foot to 3 feet high. The writer has never seen *C. cneorum* attain anything like the latter height outdoors in this country, and when seen in rock gardens, which is very seldom, it has generally been under the lower of the two heights given in works of reference. *C. cneorum* comes from South Europe, being introduced into gardens about 1640. It is propagated by means of cuttings.

POLYGONUM VACCINIIFOLIUM.

Alpine growers are often troubled by reason of the unnegotiable names of some of the plants they admire, and that of the Knotweed now under notice proves a stumbling-block to many. It takes away some of the interest of a plant to many when they are unable to talk of it by name, and were many botanists as familiar as the writer with the difficulties of gardeners—amateur and professional—with such things they would be more considerate in naming their plants. The *Vaccinium*-leaved, or if the reader prefers, Whortleberry-leaved Knotweed, is, however, one of the best rock plants. Once the initial difficulty of establishing it is overcome the rest may be said to be "plain sailing." The writer has lost plants, and has seen many more lost, the first season after planting, but when *P. vacciniifolium* once gets a proper hold it grows well and flowers freely. Although one of the best rock plants it should not be planted with the smaller gems of the rock garden, but ought to be reserved for spots where it would have room to develop without overrunning more minute plants.

This Himalayan Knotweed likes a rather moist soil, and if well established in such will trail freely over rocks and down crevices, forming a pretty picture with its curtain of spikes of rose-coloured flowers. I have seen it nowhere better than in moist peat trailing down an almost perpendicular piece of rockwork. I believe it requires firm planting at first, and now practise this with considerable advantage, well ramming the soil down on the roots. It is propagated by division. It is a better plant in some respects than *P. affine*, also from the Himalayas, and has a less aggressive habit than that useful species, which has merits as well as failings too.

RANUNCULUS RUTÆFOLIUS.

We have in cultivation a large number of *Ranunculuses* of much variety of habit and appearance. Some are very well adapted for the border, others for the wild garden, and a fair number for the rock garden. Among the last we have *R. rutæfolius*, the Rue-leaved Buttercup. This name hardly depicts to us the flat white flower with yellowish centre yielded by this alpine plant. It is, indeed, more like a *Marguerite* than a Buttercup, although plainly one of the *Ranunculus* family.

R. rutæfolius is far from being showy, but this does not detract from its beauty in the eyes of an enthusiast in such flowers. The flowers are about an inch across, and are almost stemless, among the cool-looking, glaucous, finely divided leaves, which have given it, not inappropriately, the name of Rue-leaved Buttercup. I have found it do well in moist peat near the base of the rockery. It ought to be kept clear of other plants, and well supplied with water in dry weather. It flowers about April and May with the writer. It may be increased by seeds or division of large plants.—ALPINUS.

(To be continued.)

RUSSIAN VITICULTURE.—Unfavourable weather and the ravages of phylloxera last year made the results of the Grape harvest in Russia exceedingly disappointing. But despite this the industry, which has during the last fifteen years made enormous strides, does not seem to have been permanently injured; in fact, it is believed in some quarters that in course of time Russian wine will successfully compete with the products of France and Spain upon the markets of Europe. In the province of Odessa alone 175,000 acres are devoted to Vines.

EXPERIENCE WITH PEAS.

OUR Peas are finished, the last dish having been gathered from a row of Veitch's Perfection. This and Ne Plus Ultra were sown at the same time, but the first-named afforded a supply about a fortnight the longer. For sowing a trench was dug out, manure added, and about 2 lbs. of superphosphate spread along each 3 yards of trench. This was mixed with the manure, which was then trodden well down, and about 6 inches of soil placed on the manure, the soil being also made firm. The Peas were sown on the firm base and covered with 3 inches of soil, the trench being about 3 inches deep. The Peas while growing were admired by all who saw them.

One row of Ne Plus Ultra was, however, sown without the superphosphate. This row of Peas did not stand up like those which had the phosphate; the young plants were pale in colour, and fell between the rods; they had, in fact, to be tied up—a trouble that the other rows did not give, while these produced large dark green leaves. Row for row those treated with phosphate gave about 20 per cent. the more pods, but there was very little difference in height between the rows that had the superphosphate and those which had none.

I fear that some of our differently named Peas are distinct in name only. I have a case that I should like explained. Ne Plus Ultra is said to grow 6 or 7 feet high, which is right; Ebor is described as a dwarf and earlier form of Ne Plus, growing 3 to 5 feet. I sowed the supposed varieties side by side on the same day on two occasions. There was not an inch of difference in their heights nor the time that the flowers opened. All the difference I could find was in one bag of seed having the name of Ebor on it, the other Ne Plus Ultra. I asked several people who saw the rows in bearing which was Ebor and which Ne Plus Ultra? The replies were all alike—namely, "Both one and the same thing." Trade marks are employed for manufactured goods; I think that we want something similar for horticultural produce. It is a little "off the mark" when you order what you expect to be two varieties, one about a fortnight earlier than the other, both to turn out "one and the same thing." —GEO. PICKER, *Hesslewood Gardens*.

BRAMLEY'S SEEDLING AT HOME.

I AM not much of a visitor, as you are aware; my place demands all my time and all my powers. I could not write one of the usual graphic descriptive notices of places as H. J. Wright does for all that you would give me; but when a gardening friend who knows all about fruit, especially of local fruit, says, "Come with me down to Southwell, and see Merryweather's Bramley's, you'll be delighted," I find that I can do it, and what I saw compels me to write something, however poor that something may be.

One fine afternoon, then, last week we went down to Southwell and introduced ourselves to the young representatives of the firm of Henry Merryweather. The senior heads, masculine and feminine, of the firm were away from home holidaying. We said that we had come to see their Bramley's, and they cheerfully and courteously said we should. One of them took us in charge, and walked us off to the Westgate portion of the nurseries to see the bushes. Whilst we are walking thither, I beg to explain that these notes will not include any mention of other things in the nurseries, Roses or shrubs, or herbaceous plants, or anything; that is beyond me. It would require a "H. J. W.," a "H. D.," or a "W. Pea" to do that duty adequately. We went to see Bramley's Seedlings at the home and on the spot where it originated, and we saw them.

The Westgate nurseries lie away from the home nurseries on a breezy hillside. We soon had evidences that the soil of Southwell—a strong holding loam—has power in it, as even the smaller growing Apples showed extraordinary vigour, size, and colour; whilst such sorts as Bismarck, Maltster, Potts' Seedling, Warner's King, Gascoigne's Scarlet, Lane's Prince Albert, and others were conspicuously large and sound. It was when we got amongst the Bramley's that one's wonder and surprise was awakened—Bramley's here, Bramley's there, Bramley's everywhere, and all good. Just fancy bushes 3, 4, and 5 feet high literally weighed down with fruit—fruit produced in couples and triplets, and every fruit a fine one, sound and good, and this not on one bush here and there, but with scarcely an exception. We began to realise that to call Bramley's "the finest Apple on earth" was no misnomer.

Of course, in our superior way, we have often smiled on seeing this dogmatic declaration in Mr. Merryweather's catalogue, and said, "Ah, an extra bit of brag that, just like Merryweather!" But, on seeing what we saw amongst the bushes, and after on the orchard trees, we were anxious to withdraw the charge of "brag," and declare that to call Bramley's "the finest Apple on Southwell earth" is but the simple truth. On getting back to the nurseries, we found that, like the Queen of Sheba on the wonders of Solomon's Court, "the half had not been told us," for we were taken in hand by the other Mr. Merryweather, and walked off to the orchards. Here again it is all Bramley's—Bramley's out of the dyke, Bramley's out of hedgerows, Bramley's in this corner, and Bramley's in that, up to Bramley's on large standard orchard trees, twenty, thirty years old, every single bush and tree heavily laden with fruit, some of it hanging like ropes of Onions, large, clean, sound fruit, and this on every tree without exception, though trees of other Apples in this generally Appleless season in the Midlands were empty, or with only a

few scattered fruits on them. We looked and looked, and at last, again like the famous queen, "there was no more spirit left in us," and we said, "Why, there's hundreds and hundreds of pecks!" "Yes," was the reply, "my father calculates that there is something like 4000 pecks on the place, if not more, for we are expecting that if we get rain they may swell out a bit yet."

Well! we had seen Bramley's, and so astounded were we that we had eyes for nothing else. Nothing we saw besides made any impression upon us. It must be the most wonderful Apple sight in the kingdom, and we could not have believed it if we had not seen it. In their kindly hospitable way they gave us some tea, but, with Bramley's in our eyes and Bramley's in our heads, we almost automatically partook of it, though the tea table was presided over with charming grace by the daughter of the firm.

Every Apple lover should see that sight. I send you these rough notes so that any reader of the *Journal of Horticulture* who has opportunity may do so before the crop is gathered, which we understood will not take place for three weeks, or thereabouts.—L. H. G.

[We do not suppose that the writer of this article intended the alphabetical to signify Level Headed Gardener, though that is exactly what he is, the result of fifty years' experience, even if he does write like an ardent young enthusiast.]

GRAPES AT CARDIFF CASTLE.

THERE is always much to see and admire in the gardens at Cardiff Castle, our old friend, Mr. A. Pettigrew, not having abated a single jot of his enthusiasm and skill as a gardener, and in particular as a prominent fruit grower. In the large span-roofed vineries, to the contents of which I have previously had occasion to allude, I again observed grand crops of Grapes, as heavy and good as anything our leading market growers have produced, and that, too, at the end of eighteen years of "hard labour" by the Vines.

One large compartment is wholly devoted to the variety Alicante, four Vines in all, these occupying a width of 15 feet each. The fruiting rods are trained 3 feet apart, and to every length of 12 inches there was, and probably still is, a large bunch, in numerous cases weighing from 3 to 4 lbs. each. By the end of August at the latest the crop would be well ripened, yet Mr. Pettigrew assured me the bulk of the bunches could be kept till March if desired. Ripened under such favourable circumstances as usually prevail in July and August, Alicante berries are not mere bags of sugar and water as described by non-admirers of the variety, but are crisp, juicy, and fairly rich in flavour, the full development of saccharine matter and the disappearance of water favouring long keeping and otherwise improving the Grapes.

What I consider even more noteworthy were the extraordinary crops produced by a few Vines in pots. These were occupying the roof of a lean-to house, and presented such a beautiful sight that were I the owner I should have been tempted to keep them as long as possible to look at. The rods were about 12 feet long, and were furnished throughout with bunches, principally in pairs, perfect in form, size of berry, and colour. The Vines of Foster's Seedling were each carrying eighteen bunches, or a total weight not far short of 36 lbs. Those of Alnwick Seedling were each furnished with twenty bunches, from 1 lb. to 1½ lb. in weight; and the Black Hamburg were not greatly eclipsed by the other varieties.

These Vines were rooted from eyes early in 1897, and eventually shifted into 12-inch pots, in which they were fruited. When the time came for fruiting the Vines, their pots were plunged in other larger pots, with moss packed tightly between the two. This admitted of their being set on the hot-water pipes as I saw them, the moss, kept constantly moist, saving the plunged pots and their contents from becoming rapidly dry at any time, and, unless I am much mistaken, many roots also found their way into it. Thomson's Vine manure, supplemented with frequent supplies of farmyard liquid manure, must have contributed largely to this success; but these fertilisers would have been of little avail without the constant care and attention bestowed on the Vines by Mr. Pettigrew and his young men.

This was no mere chance achievement, nearly or quite as good crops having been produced by pot Vines in these gardens in former years; and if the state of the young Vines raised this season is any criterion, those who visit Cardiff Castle and Mr. Pettigrew in the summer of 1899 will see some grandly fruited Vines in pots.—W. IGGULDEN.

TIBOUCHINA HETEROMALLA.—Among Melastomads there are many very beautiful garden plants which are rarely found in cultivation outside botanic gardens; the one under notice is of that number. It is a native of Brazil, and makes a large spreading bush 6 feet high of striking appearance. The ovate leaves are 7 inches long by 4½ inches wide, and are thickly covered with soft downy hairs, which on the under surface form a white felt. The flowers are violet or purplish violet 1½ inch across, and are produced fifty or more together in upright terminal panicles from every shoot. It succeeds best in a mixture of peat and loam, and grows well either as a pot plant or border plant, providing that an intermediate temperature, good drainage, and plenty of water is given when growing, with a rest in winter. Cuttings root readily, and quickly form good plants. Two plants 5 feet in diameter are to be seen in flower in the Mexican house at Kew.—D. K.

STRAWBERRIES—OLD PLANTS v. STARVED RUNNERS.

THE present season has been beyond question a most disastrous one for many Strawberry cultivators. The long spell of hot, dry weather has so shrivelled and dwarfed the runners (not laid in pots) as to render them practically useless for fruiting next year, even should the autumn prove genial for their growth. Those cultivators who have not layered a sufficient number of runners in pots where they could be well watered and attended to, must now, if they have any last year's plants, or even two or three-year-olds, look well after them, and let all the runner starvelings go. Cut these from the parent plants, and if there are any cracks or fissures in the beds, break up the surface lightly, destroying any weeds that may be present, and filling up all the crevices. Then well mulch with good manure, not a mere skimming but a substantial dressing, so that when the rain comes, as surely it must ere long, the plants will recuperate, and there may be yet time for them to lay up a store of strength for the succeeding year. By doing this with the old plants, and leaving the present year's apologies for runners alone, disappointment may be averted and useful crops of fruit obtained next year. With runners early layered in pots we can, in a sense, defy the dry weather, and many growers have no doubt their quarters filled with promising plants, but even this can only be effected with any great measure of success by a liberal and unstinting water supply; but this, where it exists, means an immense amount of labour, which the average gardener cannot command; therefore my advice is to look well after the older plants, and live in the hope of a more genial Strawberry season next year than the past one has been.—A MIDLAND GARDENER.

DELPHINIUMS.

PLANTS with bright blue flowers are not common, and are usually of dwarf growth; but in Delphiniums we have plants of stately habit attaining a height of over 6 feet, being fine for back rows in borders. Their flowers are borne in long spikes, some very close and without much branching, whilst others branch considerably, and the branched parts of the spike are extremely useful for cutting and mixing with other flowers. The full spike is most effective in large vases, imparting a stateliness that is never obtained by the employment of a number of sprays of flowers varying little in height. The peculiar form of the flowers gives a fitness for association with other plants which is strikingly effective and pleasing. Two of the great merits are their hardiness and ease of culture. They will grow almost anywhere in an open situation, but they are not seen at their best in shrubby borders, as the soil is too poor or shaded to allow of their standing forth in their full proportions. A rich soil, deep, well drained, and light rather than wet and heavy, is the most suitable; and the situation should be open, although a position sheltered from high winds is desirable. The soil where Delphiniums are to be grown should be well and deeply stirred, working in plenty of manure, leaf soil, or the refuse of the rubbish heap, whilst the refuse from the potting bench—corks and all—is good for mixing with and improving soils that are heavy, as also are sand, ashes, and charred refuse.

The best time to plant is in early spring, just when they are pushing the stems from the crowns; and that, too, is the best time for propagation, as the rooting is accelerated by fresh growth, and the divisions soon become established. I have divided the plants many times in spring, and find they do much better than from divisions made in autumn. When divided at the latter time the chances are that wet will act very disastrously on the cut part of the divisions, often causing decay; and slugs, which are very fond of Delphiniums, do much injury. Every bud that can be detached with a portion of the root-stem or crown will grow, but too much division weakens the plants, and the divisions are not likely to flower well the first season. The soil should be made moderately firm about them, and if dry watered. They should be planted with the crown about 2 inches beneath the surface.

The divisions made in the spring will flower a little later than plants that are not disturbed, the usual time of Delphiniums being in early June onwards; and they not only continue some time in bloom, but when the first flower stems are beginning to wane fresh ones issue from the base and form another display, which, if not equal to the first, is very serviceable for cutting and effective as well. The only thing to guard against is not to be in too great a hurry in cutting the first flower stems and to keep them from seeding, or the second growths will be poor; hence when the first flowering stems have bloomed to the points they may be removed, and the young ones from the base will by that time be considerably advanced. During May and onwards liberal supplies of water or liquid manure in dry weather will help the plants, and a mulch about the plants will cause them to flower finer and longer whilst encouraging a second growth. Some enriching material placed over and around the crowns, pointing it in lightly in spring, is all the care established plants need; and about every third year they should be lifted and divided, planting the same day, or as soon as possible. Stakes should be put to the plants in good time, securing the stems to them with soft tarred twine, and where the growths are too numerous they must be reduced, reserving the strongest and most promising.

The varieties are abundant, and where a number are grown it is remarkable how many fine forms can be raised by a careful selection of seed. Very good varieties can be raised from a packet of seed, which may be sown in March, forwarded in a hotbed, pricked off, grown, and

hardened for final planting out in May. Most will flower the first year, but better the following season. The seed can also be sown as soon as ripe in light soil in the open border, and if duly watered the seedlings will come up quickly, and the following spring they may be planted out where intended to bloom.—GROWER.

GOODIA LATIFOLIA.

THERE can be no doubt but that "F. W. A.'s" remarks anent the beauty of this plant are perfectly true, and we are glad to accede to his request for an illustration of it, which is given in fig. 45. It is an Australian evergreen shrub that has been in this country for a great number of years, but has gained a small share of popularity. These old plants are unknown to the present-day gardeners, and when a specimen is exhibited or some old collection is visited when the plants are flowering they attract as much attention as a novelty. This Goodia is not a sensational plant by any means, but it is well worth growing. The golden flowers, with a dash of red at the base of the "standard," are numerously borne, though comparatively small individually, and a well-developed specimen is a useful occupant of a conservatory or greenhouse. Both *G. latifolia* and its relative *G. pubescens* require a compost of loam and peat with good drainage, and they can be increased either by seeds or cuttings, the latter receiving similar treatment to Heaths or other hard wooded plants.

BRASSICAS AND DROUGHT.

I HAVE not one word to say against the advice given so freely in gardening papers to plant Brassicas in showery weather, for that advice is excellent. What I have to say is, that it is often wise and safe to break that rule provided your land is in good order by having been well worked and pulverised, also stored with a fair quantity of plant food. In the absence of such preparation respectable growth cannot be expected at any time.

Some years ago we had very hot and dry weather in the summer about the time that Brussels Sprouts required planting. We had some hundreds pricked out about 6 inches apart. When the plants were ready for transferring to their permanent quarters it was thought the weather was too dry. It was decided, however, to make an experiment. Deep drills were drawn, and about half of the ground planted. About a pint of water was given each plant; and an hour after a little dry soil was placed round the plants to act as a mulch, which it did. In about three days after planting another watering was given, and followed with another dusting of dry earth. The plants flagged for a few days, but gradually recovered and made splendid growth.

The other half of the ground was planted when the rain came about three weeks later; but the first plants had got hold then, and grew splendidly. The second became rather drawn in the nursery bed, and never made anything like the plants that were put out when the weather was dry; in fact, the later planted produced more than one-third less in bulk of sprouts and of poorer quality. That was a practical lesson on "not to wait too long for rain."

This summer we planted Veitch's Autumn Giant Cauliflower and Self-protecting Broccoli in very hot, dry weather, and have cause to be thankful that we did do so. Planting in dry weather is, all the same, almost useless if the land is in bad condition, both as regards working and fertility.—G. P.

BULBS FOR THE LONDON PARKS.

THE London County Council has awarded the contract for bulbs for London parks to a Dutch firm. This has caused not unnatural indignation among English seedsmen and florists. They contend that our splendid London parks are English in their character and use. English money has provided them, English rates support them, and English enterprise should be used to beautify them.

The London County Council attends to the beautifying of the Chelsea and Victoria Embankments; Leicester Square Gardens; Royal Victoria Gardens, North Woolwich; Meath, Island, and Bethnal Green Gardens; Myatt's Fields; Lincoln's Inn Fields; and the following parks:—Peckham Rye, Victoria, Battersea, Finsbury, Brockwell, Southwark, Dulwich, Clissold, Ravenscourt, Kennington, Waterlow, and Maryon. For these the London County Council requires Snowdrops, Crocuses, Hyacinths, Daffodils, Narcissi, Anemones, Tulips, Gladioli, Lilies, and others.

Twelve months ago Messrs. Carter & Co. were given the contract for the current year. On a "Daily Mail" representative inquiring at Spring Gardens whether an English firm was capable of providing Dutch bulbs of suitable excellence, he was assured that the present contract had been filled most satisfactorily. But the London County Council, while not binding itself to accept the lowest tender, does as a matter of fact do so if its solicitor, after instituting careful inquiry, is satisfied that the firm who makes the lowest tender is capable of executing its contract. Moreover, every tenderer has to sign a declaration that he pays such rates of wages and observes such hours of labour as are

generally accepted as fair in the trade. Subject to these conditions, all contracts of the L.C.C. are open to firms the wide world over. The tenders for the supply of bulbs to the London County Council parks and gardens for the year 1899 were as follows:—

Vanzanten and Nieuwerf.....	£376	9	0½
J. K. King	395	10	2
J Carter & Co.	413	15	11
Miller & Co.	415	11	4
W. Cutbush & Son	431	19	1

Messrs. Vanzanten and Nieuwerf are a Dutch firm, but they have an office at Tottenham. As their tender was 4 per cent. lower than Mr. King's, and as they fulfilled all other conditions, to them the contract was given, sentimental considerations regarding nationality not being allowed to obtrude at Spring Gardens.

It was suggested to the "Daily Mail" representative that—as all bulbs—



FIG. 45.—GOODIA LATIFOLIA.

come from Holland it can make little difference whether they pass through English hands before they reach the parks. They remain Dutch.

But the English seedsmen say that the Dutch grower pays neither rent, rates, nor taxes to this country, while they are not only heavily taxed but have to bear their share in providing the money required by the London County Council, who in return prefer to place their orders with foreign houses.

Moreover they add:—"To allow foreign tenders to be accepted in preference to those of English houses is one of those strange characteristics of the dealings of public bodies which is difficult to understand."—"Daily Mail.")

TRADE CATALOGUES RECEIVED.

J. Cocker & Sons, Aberdeen.—Bulbs.

Daniels Bros., Norwich.—Bulbs.

C. R. Shilling, Winchfield.—Bulbs.

L. Späth, Baumschulenweg, Berlin.—Seeds.

THE YOUNG GARDENERS' DOMAIN.

CAMPANULA PYRAMIDALIS.

THOSE who have not grown these beautiful old-fashioned plants in pots for conservatory or greenhouse decoration, would do well to give them a trial. They are easily managed, and have a most telling effect when grouped with *Celosias* or *Achimenes*, besides forming a pleasant change to the general plants used for the above purpose during the summer months. Seeds may be sown in early spring on a border or in boxes, and when the seedlings are large enough they should be placed in suitable pots and grown outdoors all the summer. In August they can be potted into their flowering pots, giving an 8 or 10-inch pot, according to the strength of plant. As a compost, good strong loam with wood ashes is suitable. The plants must be wintered in a cold frame, and be kept on the dry side, removing the lights on all favourable occasions. As the days lengthen, they can be syringed on fine days, and, as growth commences, be assisted with weak soot water.

Place them outdoors, as soon as weather permits, in a sunny position, and with liberal supplies of liquid manure there should be no difficulty in inducing each plant to throw up several spikes, which attain a height varying from 4 to 8 feet, and will require a stout stake for support against winds, or on removal. To those who cannot afford the room of cold frames, a simpler plan is open to them—viz., to lift the plants from the border when they have shown the flowering spike, keep shaded and rather close, give frequent syringing, and root action will soon commence. We have had plants, both white and blue, this season grown as described, which commenced blooming early in July, and have been one mass of bloom up to the last week in August; needless to say, they were the admiration of all those who saw them.—PARVO.

DISAS.

AMONG the many beautiful plants which are natives of South Africa we have some belonging to the Orchid family. Disas are, perhaps, the best known of South African Orchids, although they are not commonly cultivated in this country. One reason for this may be that many gardeners are not aware of their producing such beautiful flowers, and another may be that their treatment, especially as regards atmospheric conditions, is beyond the resources or convenience of some establishments.

Disas are distinguished from other Orchids by the diminutive lip—the function of which in other genera, is applicable to the odd sepal in the genus *Disa*. Bolus, in his treatise on Cape Orchids, gives the number of species at 109, forty-six of which are found in Cape Colony, and sixty-three nearer the equator. A few species are valuable for garden decoration.

D. grandiflora is not only the best of the genus, but perhaps the most brilliant of all cool house Orchids. It grows wild by the margins of rivulets on Table Mountain. The name *D. uniflora* is considered correct by botanists, but as that name is quite undescriptive of the form now in cultivation it is not accepted by gardeners. It has been called the Glory of Table Mountain and the Flower of the Gods, and these names fit, without flattering, the rich brilliance of the flowers. The plants multiply readily from seed and by forming young tubers, like our native Bee Orchis (*Ophrys apifera*). These tubers may be separated after flowering and potted singly in a fairly rough compost of peat and sphagnum, with a sprinkling of broken chips of sandstone. It should not be pressed firmly round the roots, and may form a mound on the surface, the point where the plant emerges from the soil being a little above the pot rim. They may be watered once just after potting, sufficient moisture being afterwards kept in the soil by frequent spraying from the syringe.

The plants like a cool, moist atmosphere, and plenty of light and fresh air. They should, however, be shaded from full sunshine, and draughts must be avoided. To insure such condition a staging may be erected fairly close to the glass in the coolest house. A layer of sphagnum or cocoa-nut fibre may be put on or under the staging to preserve the moisture, and the pots containing the plants should be placed on small inverted pots to make certain of free drainage and passage of air. By shading from strong sunshine and syringing frequently the plants should grow and keep healthy.

Little or no water ought to be given directly from a can, as that makes the compost like a soaked sponge, when the moist air which seems essential to their health is not admitted to their roots. This year I noticed that some of our healthiest Disas had rooted through the drainage holes into the empty inverted pots which supported them, and as an experiment there is one plant growing at present with its roots amongst moist crocks alone. Some cultivators consider it good to grow their plants in good-sized pans without breaking off the young tubers and repotting them every year, giving instead an annual top-dressing.

Other desirable species are *D. graminifolia* and *D. ferruginea*, which, however, are seldom grown successfully in this country. The former has beautiful blue flowers, and, as its name implies, grass-like leaves. *D. ferruginea* has also grass-like leaves, and the flowers are of a bright orange, and have each a long thin spur. *D. racemosa* is more easily grown. It has rose coloured flowers finely veined, and the front edges of the petals are crimson, and have a yellow tinge on the inner surface. *D. polygonoides* has small flowers closely arranged on a cylindrical spike. They are of a bright scarlet colour shaded to orange yellow in the centre.

There are several very good garden hybrids, such as *D. kewensis*, *D. Veitchi*, *D. langleyensis*, and *D. Premier*, which are fairly easily grown with treatment similar to *D. grandiflora*, and they will be found to be of a rather sturdier constitution than that species.—X. L. C. R.

CALLICARPA PURPUREA.

CALLICARPA purpurea might be much more extensively grown than it is, considering its usefulness as a decorative plant for the winter months. The flowers are not at all attractive; its beauty lies in the clusters of purple berries that adorn the plant after they have set, and which will hang for several months, often till the end of April. Among several well-grown plants I have seen, the best is at Highelere Castle.

The plants are comparatively easy to grow if a moderate amount of attention is given. The cuttings should be inserted in a moist heat about the beginning of March, when they will root freely. Those having the shortest growths should be selected, as they make by far the prettiest plants. When they are rooted they ought to be potted into small 60's, after being kept in the same heat as they were propagated in, until they are fairly rooted, when they may be removed into a house or pit with a moist temperature of about 65° to 70°. The plants should be pinched at the fourth pair of leaves, and the laterals which are produced at the second, continuing this operation until about the end of July. The flowers must also be kept pinched out till about the same time.

When the plants have filled their pots with roots they may receive a shift into large 60's or 48-pots, according to their size. Abundance of light and air are the chief agents for their successful culture, especially when the flowers are setting. I think there is no plant which will better repay a little extra attention than *CalliCARPA purpurea*, and none that will so soon show the lack of it. By the end of November showy plants will reward the cultivator if the above directions are followed. Grown in small pots they will be found most useful for furnishing either the conservatory or a greenhouse, especially if they are allowed to hang naturally and are not staked.

If large plants are required the following spring they may be pruned back a little and placed in a house with a temperature of about 65°, where they can be kept well syringed daily, though they should be kept moderately dry at the roots until they start into growth. When the shoots are about an inch long the plants must be knocked out, and their roots pruned a little, and potted in a size larger. When the plants are established they should be removed to their summer quarters. A vinery that is at work is a good place to start them. Great care must be exercised in the matter of watering, and a moist atmosphere should be kept as much as possible. Stimulants must be given sparingly, a little cow manure diluted is the best. The soil suited to them is one composed of turfy loam and peat in equal proportions, and one-third sand with a little charcoal broken fine and added to keep the whole sweet.—S. S.



HARDY FRUIT GARDEN.

Watering Fruit Trees.—In those districts where the abnormally dry weather has been felt severely, and still continues, water should be applied copiously to choice dwarf fruit trees. Cordons on walls and espalier fences ought to be specially attended to as regards moisture at the roots, not only for the purpose of plumping the fruit buds for the succeeding year's crop, but to finish the present crop. It is not necessary to apply fresh mulchings at the present time, but if any remains from previous dressings water may be given over it. When the rooting medium is sufficiently moistened, either artificially or naturally, liquid manure can be supplied to any trees which may require extra nourishment. It is wasteful, however, to use liquid manure when the soil is very dry.

Young trees, if growing freely, but not yet in bearing, ought not to be stimulated by anything stronger than clear water, unless the buds, before the fall of the leaf, are insufficiently nourished.

All trees with roots near the surface will be benefited by moisture, but wall trees, including Peaches, Nectarines, Cherries, and Plums, invariably demand more copious supplies than trees or bushes in the open, where the feeding ground for food and moisture is more extensive.

Lifting Young Fruit Trees.—Trees or bushes which it is contemplated to lift and replant, owing to exuberant growth, must be kept properly moist at the roots, so that there will be less probability of the trees suffering from the operation, which should be carried out prior to the fall of the leaves. It is nearly always necessary to check the growth of young Apricots, Peaches and Nectarines, especially if the space that can be devoted to training the growths upon is limited. Ample wall space for extension admits of plenty of growth being trained in, which acts as a check upon exuberance, bringing the trees earlier into a fruiting condition, but guard against overcrowding. This may render lifting unnecessary.

Open a good wide trench 3 feet from the stems, and gradually work away as much of the soil as possible without injuring the roots, in order that the trees may be lifted bodily. This will not be possible until the ball of roots is undermined and the main descending roots severed. This must be done so as to leave smooth cuts. Any other roots torn or bruised ought to have the ends cut cleanly. Fibrous roots must not be left uncovered for any length of time. In replanting raise the ball a little

higher than previously, but only so that the roots may be under better conditions regarding warmth and soil, but with due regard to the supply of moisture. The longest roots found when the trees are raised may be cut back to the ball. In some cases there may not be a sufficiently large amount of adhering soil, thus the loose roots will require spreading out in a careful manner. Shorten the strong roots slightly. Make the soil firm about the roots, using good fertile material, but no manure, which is best laid on the surface as a mulch to retain the moisture, which must be supplied to the trees. Syringing will be of benefit in assisting re-establishment.

Established Fan-trained Trees.—The treatment to be recommended in the management of the growths of Apricots, Peaches, Nectarines, also Morello Cherries, consists in utilising largely new wood annually. After the trees are cleared of fruit, superfluous wood may be dispensed with, including the past-bearing shoots, weakly and exhausted branches, thus leaving space for the training-in of the new shoots. The best placed of these ought to be selected and laid in without overcrowding. In the process there will therefore, be some surplus shoots for which no room can be found. Cut these out entirely, where there will be no advantage in shortening them to form spurs. Ripening of the wood will be better effected after the laying in and regulating has been carried out, sun and air having free access to each branch and shoot.

Improving Horizontally Wall-trained Trees.—It frequently happens that the branches of these, chiefly Pears, are allowed to remain too closely arranged years after the space between them has become limited. The elongation of the spurs, as well as their increase in number, tend to fill up the space. There should, in consequence, be a little shortening and thinning out of the spurs annually. Some good may be effected by removing every other branch wherever they have been originated closer together than a foot. This can be carried out as soon as the fruit is gathered, as while the foliage remains on the trees a better judgment can be formed of the reduction necessary.

Strawberries.—The clearance of runners from Strawberry beds should be complete. Withered foliage also ought to be cut away, but none that is healthy. Young and strong-rooted plants may be found between the rows which will serve for forming new plantations, either planting permanently now in rows on well-prepared ground or in nursery beds, placing them 6 inches apart in the latter, where they can remain for the winter and be planted in spring. Established beds, when clear of runners and weeds, may be mulched with decomposed manure as an autumn dressing.

FRUIT FORCING.

Cherries.—A house of Cherries is not common, but there is no fruit grown under glass more useful for dessert. The structure for Cherries must be light, well ventilated both at the top and bottom, and efficiently heated. Side lights may be dispensed with, but wooden ventilators should be provided to open the whole length of the house. The trees can be trained to a trellis fixed 12 inches from the glass, or they may be grown as bushes or low standards. A lean-to facing south is best for early forcing, and it may be 6 feet wide against a wall 10 or 12 feet high, a trellis fixed in front and up the roof, the trees being either grown as cordons or in fan form. Two rows of 4-inch pipes will be sufficient. The roof-lights should be movable. For trees in pots the house may be of any width, but 12 feet answers well for a lean-to. Borders for planted-out trees are best inside, and in no case need exceed the width of the house, but 4 feet width of border is sufficient to commence with. It should be drained 9 to 12 inches deep, having proper drains to carry off superfluous water. Brickbats, with a 3-inch layer of old mortar rubbish over them, answer well for drainage. From 20 to 24 inches depth of border is ample, but allowing about one-fourth more for settling. Good turfy loam, preferably inclined to be heavy rather than light, four parts; lime rubbish, from an old building, one-fifth; and road scrapings one-sixth, the loam chopped up moderately small, the whole well incorporated, form a suitable compost for Cherries. The trees may be planted as soon as the leaves begin to fall. Those that have been trained to walls three to six years are the most suitable, as they will be in a bearing state and calculated to give a crop of fruit the first season, and having been prepared for lifting the previous year they can be moved safely. The borders should be put together compactly, the trees firmly planted, and a good watering given, mulching the roots with a couple of inches of short but not soapy manure. The most suitable varieties are Early Rivers, Black Tartarian, Governor Wood, and Elton.

Vines.—*Early Forced in Pots.*—The Vines to produce ripe fruit at the end of March or beginning of April should not be started later than the beginning of November. They must now be pruned and the cuts dressed with styptic, keeping in a cool place, and where the soil will only be moderately moist. Excessive wet causes the decay of the fibres. If the canes have to be procured lose no time in placing orders. White Frontignan, Foster's Seedling, Black Hamburgh, and Madresfield Court are reliable varieties.

Early Forced Houses.—It is not advisable to start permanently planted Vines in November to have Grapes during April where there is convenience for growing some in pots, as very early forcing is a great strain on the energies of the Vines, through their having to grow at the dullest period of the year and rest at the hottest. If not already pruned the Vines must be attended to at once, also those to be started in December should be pruned as soon as the foliage commences to fall, so as to give them a few weeks' rest. Outside borders, which are a great mistake where early forcing is practised, should be protected from autumn rains by covering them before the ground is chilled with continued wet and cold. A good

covering of dry leaves with a little litter to prevent the leaves blowing about is an effective protection. The borders, however, need not be covered until they have been well moistened by the autumn rains.

Midseason Houses.—Black Hamburghs and other descriptions of black Grapes have the colour taken out of them by hanging, and can only be lessened by a good spread of foliage or drawing a double thickness of herring nets over the roof-lights. The latter is the preferable plan, as lateral growths interfere with light to the principal leaves, and the free access of air so desirable for maturing the wood. Vines from which the Grapes have been cut may have the growths shortened to a few joints above the buds, first curtailing the laterals, and then cutting back the main growths. This insures the buds becoming plumper, whilst the freer access of light and air affects the wood favourably. A free circulation of air is necessary to expel damp where Grapes are hanging, with a little constantly to prevent the deposition of moisture on the berries, a gentle warmth in the hot-water pipes being necessary when the external air is cold and damp; but the wood being ripe, and the growth matured, it will suffice to maintain a temperature of 50°, and the cooler by day the house is kept the longer the Grapes will keep plump. Vines with unripened wood should not have a less temperature than 60°, and this with a free circulation of air must be continued until there is no doubt on that point. Keep laterals well in check, not allowing them to interfere with the chief growths.

Late Grapes.—Where the Vines were started in March, and aided in spring by fire heat, as well as during the summer, the Grapes will be thoroughly ripe, which is much better than having to maintain a forcing temperature after October comes in to secure the ripening of the fruit. In the latter case the temperature must not be less than 70° to 75° by day and 65° at night, falling 5° through the night, allowing an advance to 80° or 85° from sun heat, continuing this until the Grapes are ripe, at least until the wood is brown and hard. The fruit being thoroughly ripe—in which state only can the Grapes be expected to keep satisfactorily—and the wood thoroughly matured, all sprays or laterals may be removed down to the main buds, ventilating freely on all favourable occasions. Fire heat will then only be necessary to prevent the temperature falling below 50°. To prevent dust settling on the berries raking or sweeping must not be practised. Mats or clean dry straw laid over the inside borders will to some extent prevent evaporation, assist in keeping the atmosphere dry, and prevent the soil cracking. The outside borders must be covered if the fruit is to keep well. Glazed lights are best, wooden shutters good, and tarpaulin over dry bracken or straw answers well. A thick thatch of bracken or straw is very serviceable.

Young Vines.—Those that have a disposition to continue growing to a late period may be checked by stopping the laterals moderately, and the ripening of the wood will be facilitated by a high and dry temperature by day, shutting off the heat, and keeping the ventilators open by night, unless frosty.

THE BEE-KEEPER.

SPREADING FOUL BROOD.

In previous notes we mentioned the subject of placing cappings and combs in the open air for the bees to clear of the honey they contain. There is, however, a much more serious side to the question than causing excitement in the apiary and the robbing of weak stocks. A correspondent writes, "I had foul brood in my apiary for at least a couple of years, and nothing serious happened from it till one day in autumn I had a great number of frames which had been used for extracting purposes, and which in former years I had placed in the hives for the bees to clean them of honey before storing them away for the winter. Instead of doing so on this occasion they were all placed in the open air, so that all the bees from the various hives had free access to them. The following spring I found I had foul brood throughout my apiary; the brood in many instances was a rotten mass. The worst of these were committed to the flames—bees, frames, and hives. Out of sixty colonies forty were destroyed. The remainder were eventually cured, and I have now not a case of foul brood in my apiary. I attribute this serious outbreak of foul brood to the exposing of the combs taken from the stocks in which there were slight cases of this dread disease, but which had not made any headway during the two years it had been in my apiary."

The above shows the danger of exposing combs from stocks that are only slightly affected with foul brood, and the serious result arising from it. A whole district may soon become affected in this manner. Another frequent cause of foul brood being spread is the careless manner in which foul stocks are destroyed. Instead of making a fire at night and burning every vestige of bees, combs, and frames, the operation is left until the middle of the day, when numerous bees are on the wing. These are attracted by the smell of the burning wax and the honey contained in the combs, the latter being only partly consumed, and the bees will in a short space of time clear out all the honey which is affected with the disease. It is thus carried by the bees to the other colonies, and the disease is spread at a rapid rate.

throughout the neighbourhood. Bee-keepers cannot be too careful in exposing cappings and comb in the open air, as by this means disease is often spread.

STORING FRAMES.

We are the happy (?) possessors of a great number of combs which are in frames, and weigh upwards of 10 lbs. each—a solid slab of honey of the darkest hue. These, as was stated in previous notes, are left on the hives in the same position they occupied during the summer months. Others, however, will have numerous frames filled with good clean combs, which will be useful another season for extracting and other purposes. It is, however, necessary to find a suitable place for them until they are required again. It will make all the difference in the treatment they receive whether the bees will take readily to them, or if they are only fit to be melted down for the wax they contain.

If the wax moths are allowed to gain access to them they will deteriorate at a rapid rate and be of little use for wax extraction. We once experimented with thirty combs taken from standard frames, and which had been exposed for several months, so that the wax moth had played great havoc with them. The nett result was 1 lb. of badly coloured wax; since then we have always committed any badly affected combs to the flames.

An inexpensive way of storing comb is to obtain a large box and line it with coarse calico or similar material, and well sprinkle it with carbolic acid. Fill the box with combs in the same position they occupied in the hive, as we find they come out better in the spring when packed away in this manner than when placed flat. Those who object to the smell of carbolic may use a few lumps of naphthaline in the box, which may be lined with paper, and will have the effect of keeping the wax moth away. The boxes should be stored in a dry place.—AN ENGLISH BEE-KEEPER.



All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Osmunda regalis and *Osmunda gracilis* (O. F.).—You are quite right, and we hope "Todmorden" will see this reply. *O. regalis* is a British Fern; *O. gracilis*, about which he inquired, is not, but a native of North America. The printing of "*regalis*" in our reply on page 236 last week, was a pure accident, and not discovered until too late for rectification.

Chrysanthemum Leaves Rusted (H. H. M., Wills).—Yes, the leaves are infested with rust fungus (*Uredo chrysanthemi*), and, in places, on both surfaces of the leaves. We remember the plants you sent in the spring, and have two of them growing, neither being affected with the rust. This may interest you, as they have been grown where spores of the fungus have floated "fast and furious." You cannot do better than follow the advice given to "Anxious" in the issue for September 15th, page 216. If you have any difficulty in procuring the sulphide of potassium use bisulphide of calcium, for which instructions to prepare are given in reply to "A. G." last week, page 236. In order to wet the pustules, it may be necessary to employ a sponge or brush, but not injuring the leaves.

Peach Tree for a Cool House with South-East Aspect (T.).—The Peach tree least liable to east the bud is, according to our experience, Royal George, then Stirling Castle, and after it Crimson Galande. The first named is one of the best Peaches in cultivation, and we have found it a certain cropper under glass.

Geranium tuberosum (Somerset).—This herbaceous perennial is a native of South Europe, and was introduced into this country in 1596. It grows about 9 inches in height; has many-parted leaves, lobes linear, pinnatifid, serrated; and produces large, numerous, elegant, purple flowers, petals bifid, in May. We have had it very fine on a south border in the midland counties, soil a generous loam over gravel. It should be given a sheltered situation in the open border.

Swellings on Chrysanthemum Shoots (Anxious).—The leaves are quite healthy, and we found nothing of an injurious character in the buds, though they are not swelling, but mites are extremely difficult to find in the early stages, the eggs being very minute. They are also overgrown and embedded in the tissue by the growth on the part of the plant in the particular invaded place, which causes the swelling, and ultimately gall, the mites eating away the inner surface, on which there is usually a luxuriant pasturage of hairs. The excrescences on the shoots appear of this character, but in them we failed to detect any animal organism, and on the brown only the mycelial hyphae of some fungus. Possibly there has been, or is, eelworm trouble at the roots, but this would hardly account for the swellings, which have an active cause at the point of formation, and are commonly induced by animal or vegetable organisms, but these, if any, we failed to discover during repeated examination.

Dwarf Plants for Narrow Beds (Somerset).—The dwarf forms of *Begonia semperflorens*, such as *B. s. atropurpurea*, also known as Crimson Gem (brilliant orange carmine), would be attractive, both by foliage and flowers. A bed is now in full beauty at Chiswick, the plants raised from seed early in spring and duly prepared for planting. *Verbena melandris splendens* (brilliant scarlet) can be kept very dwarf, raised from cuttings; and naturally so are the varieties of *V. hybrida compaeta*, which have flowers in several colours, and may be raised from seed. Of bedding Pelargoniums, of the colours desired, Cannell's Dwarf (orange-scarlet), and Harry Hieover (orange-scarlet), are of low close growth in firm and not rich soil. *Gazania splendens* and its variegated form are close low-growing plants, but require poor soil for producing their large orange-coloured flowers freely. Test them in a reserve garden next year; also Sutton's dwarf fibrous Begonias. If you are sure Dianthus would do, why not have them in the beds instead of elsewhere?

Treatment of Belladonna and Guernsey Lilies (A. S.).—You do not say whether the bulbs are for potting or planting outdoors. If the latter, they should be given a position in front of a south or south-west wall, affording a compost of good fibrous loam, leafmould, and sand in equal parts. Place the bulbs 6 to 8 inches deep, that distance apart, and surround with sand, after which they may be covered firmly with the compost; they should not be again disturbed for years. If the surface where they are is planted with *Sedum* acre it will materially add to the appearance when the plants are in bloom. In their growing season and in dry weather an occasional soaking of liquid manure will be highly beneficial. This treatment applies to the Belladonna Lilies, and will answer for the Guernsey, only plant about 2 inches less deeply and not more than one-third the distance apart. If in pots place about five bulbs of Guernsey Lilies and one of Belladonna respectively in a 5-inch pot, well drained and in the compost before named, inserting them about half their depth in the soil and pressing firmly about them. Stand on a shelf in a house from which frost is excluded, otherwise the cooler the better, and supply water only to keep the soil moist. If with flower buds, they will flower, and after that push growth. When the leaves give indications of dying down, gradually withhold water, and cease entirely, still keeping the pots well up to the light, and the soil dry until signs of growth are again apparent. The bulbs do not require repotting very frequently, but an annual top-dressing of new soil is of material advantage when the flowering season begins.

"Miniature" Ants in Houses (Pest).—The minute ants appear to be the species very common in some plant and fruit houses, and live, as you say, in colonies, wherever they can find a place. We have been familiar with them for half a century as *Formica nigra*. They do not "spread scale," but they are attracted by the secretion of the insect and feed upon it. No doubt the dry hot summer has suited them well, and the soil, made comfortable for them, accounts for their infestation. They possess an oily secretion, and thus resist water to a certain extent, keeping it from their colonies in the soil. Under such circumstances we do not consider it would be advisable to introduce the brown ant (*Formica fusca*), for the most they are likely to do is to make "slaves" of the smaller species, and thus favour their own increase. We should first of all get rid of the scale by the use of insecticides, such as Fir-tree oil or Lemon oil, carefully following the instructions, and if you syringe the houses in a safe solution to the plants, you will find it kills the ants reached. The first named can be used at the roots of the plants, for it is rapidly decomposable in the soil, and will not injure the plants, only attend to the instructions. Or, for the soil, use Little's soluble phenyle, or Jeye's fluid, at a strength of 1 fluid ounce to 3 gallons of water, or if very delicate rooted plants, dilute to 6 gallons. We have also found hot water useful, applying at a temperature of 115°—some plants will bear the water much hotter—stopping the hole in the pot with clay so as to flood the soil for a short time. The insecticides named, and others advertised, may be ejected into the colonies in the woodwork and walls, by means of the jet of a syringe, and these simple means will mostly prove effective.

Anomalies in Judging (Well Wisher).—If a schedule stipulates for two Cucumbers, six Apples, and six Roses in different classes, and an exhibitor includes three, seven, and eight specimens, respectively, he does not show in accordance with the schedule, and the judge was right in disqualifying; but if, as you say, that in a class for six kinds of vegetables the first prize was given to a collection containing eleven kinds, the award was obviously wrong. The judge being, as you describe, a "most fair man," he presumably overlooked the conditions; and the exhibitor made a mistake too if he did not enter a courteous protest, in writing, to the secretary.

Pruning Magnolia Tree (N. S.).—The best time to prune the tree, if an evergreen and against a wall, is at the end of March or beginning of April, close to a bud or joint, then there is a chance of the shortened branch pushing growth quickly and ripening it before winter. With this precaution the tree may be cut back to any extent, but it is always desirable to retain some young wood, or short stubby growths, as near the base of the branches as practicable. If a deciduous species, prune the tree in early spring—the sooner after severe frosts break up the better—observing the same conditions as for the evergreen. It is not advisable to cut very hard back, leaving nothing but a few bare stumps, as the sappy growths issuing are not likely to become well ripened, hence liable to suffer from severe frosts.

Making a Vine Border (K. O. L.).—The border must have a drain with proper fall and outlet to carry off superfluous water, unless the ground is naturally well drained. The bottom of the border should incline from all points to the drain or drains. Then place in a foot depth of rubble or brickbats, roughest at bottom and finest (about the size of road metal) on the top. Either cover that with a thin layer of sods, or preferably with a couple of inches thickness of old mortar rubbish freed from pieces of wood. The compost may consist of good turfy loam, the top 2 inches of an old pasture; of that ten cartloads, two cartloads of old mortar rubbish, one of wood ashes, and another of fresh horse droppings, 2 cwt. of horn and hoof shavings, and 4 cwt. of crushed half-inch bones. Incorporate all thoroughly, the turf being chopped moderately small, and place in 2 feet deep rather firmly, but not treading, only beating with a fork. We should not make the border the full width at once, but in sections.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state.* (C. N.).—1, Potts' Seedling; 2, deformed Golden Noble; 3, Peasgood's Nonesuch. (Fructus).—1, Dumelow's Seedling; 2, Betty Geeson; 3, New Hawthornden; 4, Winter Hawthornden; 5, Potts' Seedling; 6, Peasgood's Nonesuch. (T. Bennett).—It is a pity you did not address the box properly. See instructions at the head of the "correspondents'" column, as all the fruits were either rotten or so discoloured by the delay which occurred as to render identification practically impossible. If the tree has a tendency to produce blossoms in summer the variety may be the Windsor Pear, which has been grown in this country for more than 300 years. The shrub, though arriving quite withered, is one of the Bladder Sennas, probably *Colutea arborescens*. (A. F. D.).—You appear to have chosen the worst specimens you could find. 1, 5, and 6 it is impossible to name; 2, Round Winter Nonesuch; 3, American Mother; 4, corrugated King of the Pippins. (R. M. D.).—1, Ecklinville Seedling; 2, Tower of Glamis; 3, Golden Spire; 4, possibly a malformed Blenheim Pippin; 5, small Lord Grosvenor.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (G. F. J.).—*Hibiscus syriacus*; it grows and flowers freely in the form of large bushes in the neighbourhood of London. (Nick).—1, *Lastrea dilatata*; 2, *Pteris longifolia*; 3, *Asplenium laxum pumilum*; 4, fertile fronds of a *Lomaria*, probably *L. spicant*, cannot be certain in absence of barren fronds; 5, *Aspidium lepidocaulon*; 6, *Pellaea retundifolia*. (W. H. W.).—1, probably a *Tussilago*, but flowers are necessary of flowering plants; 2, *Abies canadensis*; 3, *Taxodium*

distichum; 4, *Platanus orientalis*; 5, *Ailanthus glandulosa*; 6, a variety of *Quercus Ilex*. (Twenty-five Years Subscriber).—In consequence of the delay resulting from your not addressing the parcel as advised at the head of this column the specimens arrived in bad condition. The border flower is probably *Anchusa italica*, and the greenhouse plant *Chlorophytum orchidastrum*. (Inquirer).—1 and 3, incomplete fronds; 2, *Adiantum formosum*; 4, *A. gracillimum*; 5, *Begonia weltonensis*. The Orchid is *Epidendrum necturnum*. As we have before stated, cotton wool is the worst material you can use for packing; read the rules and suggestions above.

COVENT GARDEN MARKET.—SEPT. 28TH.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve ...	1 3	to 3 6	Grapes, lb....	1 6	to 3 0
Cobs ...	55 0	0 0	Lemons, ease ...	30 0	60 0
Filberts, 100 lbs. ...	50 0	0 0	St. Michael's Pines, each	2 6	5 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0 0	to 0 0	Mustard and Cress, punnet	0 2	to 0 4
Beans, $\frac{1}{2}$ sieve ...	0 0	0 0	Onions, bushel ...	3 6	4 0
Beet, Red, doz. ...	1 0	0 0	Parsley, doz. bnchs...	2 0	3 0
Carrots, bunch ...	0 3	0 4	Parsnips, doz. ...	1 0	0 0
Cauliflowers, doz. ...	2 0	3 0	Potatoes, ewt. ...	2 0	4 0
Celery, bundle ...	1 0	0 0	Salsafy, bundle...	1 0	0 0
Coleworts, doz. bnchs.	2 0	4 0	Scorzoneria, bundle ...	1 6	0 0
Cucumbers... ..	0 4	0 8	Seakale, basket...	1 6	1 0
Endive, doz. ...	1 3	1 6	Shallots, lb. ...	0 3	0 0
Herbs, bunch ...	0 3	0 0	Spinach, pad ...	0 0	0 0
Leeks, bunch ...	0 2	0 0	Sprouts, $\frac{1}{2}$ sieve ...	1 6	1 9
Lettuce, doz. ...	1 3	0 0	Tomatoes, lb. ...	0 4	0 9
Mushrooms, lb....	0 6	8	Turnips, bunch...	0 3	0 4

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6 0	to 36 0	Foliage plants, var., each	1 0	to 5 0
Aspidistra, doz. ...	18 0	36 0	Lilium Harris, doz. ...	12 0	18 0
Aspidistra, specimen ...	5 0	10 6	Lycopodiums, doz. ...	3 0	4 0
Dracæna, var., doz....	12 0	30 0	Marguerite Daisy, doz. ...	6 0	9 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	4 0	6 0
Erica various, doz. ...	12 0	24 0	Musk, doz. ...	2 0	6 0
Euonymus, var., doz. ...	6 0	18 0	Myrtles, doz. ...	6 0	9 0
Evergreens, var., doz. ...	4 0	18 0	Palms, in var., each ...	1 0	15 0
Ferns, var., doz. ...	4 0	18 0	„ specimens ...	21 0	63 0
„ small, 100 ...	4 0	8 0	Pelargoniums, scarlet, doz.	4 0	6 0
Ficus elastica, each ...	1 0	7 0	„ „	8 0	10 0

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch...	2 0	to 3 0	Maidenhair Fern, doz.	4 0	to 8 0
Bouvardias, bunch ...	0 6	0 9	bnchs. ...	4 0	to 8 0
Carnations, 12 blooms ...	1 0	3 0	Mignonette, doz. bnchs...	1 6	3 0
Chrysanthemums, per doz.	1 0	4 0	Myosotis, doz. bnchs. ...	1 0	2 0
Eucharis, doz. ...	2 6	3 0	Oreids, var., doz. blooms	1 6	9 0
Gardenias, doz. ...	1 0	2 0	Pelargoniums, doz. bnchs.	3 0	6 0
Geranium, scarlet, doz.	4 0	6 0	Polyanthus, doz. bnchs...	1 0	1 6
bnchs. ...	4 0	6 0	Pyrethrum, doz. bnchs. ...	1 0	1 3
Gladioli, per bunch ...	1 0	1 6	Roses (indoor), doz....	0 6	1 6
Lapageria (white) ...	1 6	2 0	„ Red, doz....	0 3	0 6
„ (red) ...	1 0	1 3	„ Tea, white, doz. ...	1 0	2 0
Lilium longiflorum, 12			„ Yellow, doz. (Perles)	1 0	2 0
blooms ...	4 0	5 0	„ Safrano(English)doz.	1 0	2 0
Lily of the Valley, 12sprays	1 0	2 0	„ Pink, doz. ...	1 6	3 0
Marguerites, doz. bnchs.	1 6	2 6	Smilax, bunch ...	1 6	2 0



FROM SEPTEMBER, 1897, TO AUGUST, 1898.

THIS is the farmer's year, and if by the end of August in any given year he does not know how he stands financially, he never will. It is in this month he reckons up his gains and losses, values his assets, and writes "Finis" at the bottom of his books, and turns over a fresh page for a new start.

This year, at any rate, he begins with a well filled stack yard and good, if not excellent fodder, and in plenty too. However corn varies in price Clover and hay do not materially change. They are crops too bulky to import in any great quantities, and when good are always in demand. Just one word before we pass on to other matters. How about insurance? Everything is very dry (despite the falling rain), water scarce (except where rivers run handy), stack yards very full,

the threshing machine at work in nearly every yard, careless men and naughty children and cheap matches all over.* We have taken up the paper daily, only to read among home news of disastrous fires, and the complete loss of twenty to thirty stacks at a time.

No insurance really covers the loss, but the money in hand will do much to mitigate. Where the stacks are aflame there is danger for the buildings, and although there is no stock housed at present, serious inconvenience would arise when the cold weather comes and buildings are *non est*. We are not agents for any insurance company, but we feel we sleep more sweetly when we realise that all we possess, from stock, dead and alive, to household furniture, is insured.

This last has been *annus mirabilis* in the corn trade. Speculation has been rife, fortunes have been made and lost (more of the latter than the former), and the price line on the Wheat chart has gone up and down with great rapidity.

For twenty years bread stuffs have not reached so high a value, and the mean average values of corn have been higher than any year in the nineties. The circumstances that lead to these enhanced values were exceptional—*i.e.*, a shorter supply, and the fear that the American-Spanish war would affect the arrival of cargoes from abroad. Harvest, too, promised to be late, a fear, however, that was not realised.

Our own Wheat crop last year amounted to 6,786,972 quarters, and we had to supplement this by the purchase of 21,961,361 quarters from abroad. This foreign supply cost about 8s. per quarter more than it did the year previous. That 8s. per quarter amounts to something like £8,800,000. We began our corn year with Wheat at 33s. 1d. per quarter, it rose in May to 47s. 11d., and now stands at 26s. 10d., or something like 6s. 3d. per quarter less than we began with last year.

Barley, too, rose with Wheat, and averaged 26s. 11d. per quarter, as against 23s. 2d.; and Oats got to 18s. 4d., as against 16s. 9d. The average of Wheat for the year was 36s. 4d. per quarter. That the rise in price has caused more Wheat to be sown is certain; whether the yield is going to be much above the average still remains to be seen.

Europe's harvest has been a good one; United States and Canada have excellent yields. Russia alone complains of a shortage; but as her population is a Rye-eating population it does not concern us much. Certainly we have not much corn in hand, little if any; but we have tided over the worst, and there is a prospect of bread and to spare for the coming year. Less bread is needed when the Potato crop is a good one, and from reports to hand this crop, too, appears assured.

But we never talk of the Potato crop with too great certainty. When once we have the Wheat in the stack we have it safe (bar fire), but Potatoes are not so. We may grow a good crop, store a good crop, and yet not market a good crop. Potatoes are rather like fairy gold, and vanish at a touch. It is a sorry day for our town population when bread and Potatoes are both dear. We fancy there is one crop which will maintain its value during the coming year—we speak of Oats.

The old stock is exhausted, the new crop but poor, short in acreage, short in yield. Short in acreage because it was supplanted by spring-sown Wheat; short in yield on account of the dry season, and Oats will be in demand more than usual owing to the smaller area of Maize in the United States. Cheap Maize is good horse corn, but dear Maize will cause a greater run on the Oats. We hope and trust pig corn will be both dear and scarce this year. No sprouted grain, no spoiled rakings, and we fancy that the majority of the Barleys are of fair malting qualities.

One fact has very much struck us this harvest. Perhaps this district is singular, and we should rather like to know if the same prevails in other neighbourhoods. We allude to the scarcity of gleaners. Two women and a girl half witted represent the gleaners of our hamlet, and cornfields come up to the cottage doors. The fields are not closely raked, the corn is an excellent condition, and all the cottagers are pig-keepers. What is the cause of this declension?

* Four cases stack fire in to-day's paper (local).

We think it may be a sign that wages are so good that they need no supplementing; certainly there are plenty of women and children about, and since the days of Ruth there has been a sort of halo round the gleaner's head. We can understand it in bad weather, but we cannot understand why all this good Wheat and Barley is not considered worth picking up.

According to the report issued by the Hungarian Minister of Agriculture, the increase of the Wheat yield this year is 27.7 per cent. above that of last; the Rye crop is 16.6 per cent. larger; while the Oat crop is 5.7 per cent., and the Maize 6.7 per cent. less. England's increase in Wheat is reckoned at eleven million bushels, France eighty millions, Italy fourteen millions, while that of Austria is eight to nine millions. There is every likelihood therefore that the world's surplus of bread stuffs will be increased during this cereal year, and that the dear loaf will not be realised at present.

WORK ON THE HOME FARM.

The great heat of the past fortnight has been broken by a few heavy showers, and none too soon, for not only Turnips, but even Mangolds, were suffering from the drought, whilst the young Clover on dry soils was quite at the point of perishing. The rain has not been great in quantity, but it may suffice to keep vegetation alive until more comes.

Ploughing is now impossible except on very light sand, and the ploughing of lea must be deferred until there has been a thoroughly penetrating rainfall, so we must turn our attention to the fallows, which have been already stirred and are now working splendidly. The ox-harrows, roll, light harrows, and chain barrows following each other in quick succession are making a clean sweep of the not too plentiful twitch, and the land will hardly require touching again until it is ploughed down for winter. Perhaps, should the weather remain dry, another dragging with the spring-tooth, and one light harrowing, might pay if there should be a few bits left.

Notwithstanding the fine weather the black spot made its appearance recently on the leaves of the Potatoes, and already little leaf is left; the stems, however, still keep green, and we hope that disease may not attack the tubers. It would be wise, no doubt, to immediately lift all those which are sufficiently matured and make them safe from weather influences, for disease might still work havoc if a wet time were to set in.

Pastures have gone off rapidly, but the meat is good, having so much sunbined in it. There is no difficulty with lambs, which are doing very well; but we wish they were well on the roots, for Turnips have gone through so many vicissitudes that we fear they may not be very wholesome food for young stomachs. Both Thousand-head and Rape have been much mildewed, but stock have done well on them. We hope to say the same as regards the Turnips, but greatly doubt the result. Perhaps the best way will be not to force the lambs too closely on to the Turnips, but to give them plenty of change back to the old pastures—*i.e.*, fog or grass.

Stubbles are now all broken up and new seeds have little meat in them, and should not be stocked in their present weakly condition, so Clover-fog or old pasture are the only alternative to the roots. There is another question involved. Roots must be so scarce before spring that there can be no hurry to get the sheep on them now.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.
1898. September.	Barometer at 32°, and Sea Level	Hygrometer		Direc- tion of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Tempera- ture.		
		Dry.	Wet.			Max.	Min.	In Sun	On Grass	
	inches	deg.	deg.		deg.	deg.	deg.	deg.	deg.	inches.
Sunday 18	29.910	66.8	60.3	W.	64.6	67.9	62.3	81.4	55.8	0.111
Monday 19	30.249	57.6	51.2	S.	61.1	65.9	43.1	107.9	38.7	0.010
Tuesday 20	30.163	61.2	58.4	W.	60.8	74.2	56.8	113.9	53.4	—
Wednesday 21	30.087	56.6	55.0	S. W.	60.8	73.2	49.1	111.6	44.6	—
Thursday .. 22	30.120	58.1	55.0	N. E.	60.0	71.0	49.8	99.2	44.9	—
Friday 23	30.270	56.1	49.8	N.	58.9	67.2	43.2	102.1	37.9	—
Saturday 24	30.181	52.9	47.9	N. E.	58.0	63.4	42.3	108.2	35.9	—
	30.140	58.5	53.9		60.6	69.0	49.5	103.5	44.5	0.121

REMARKS.

18th.—Cloudy early; heavy rain between 9 A.M. and 11 A.M.; occasional sunshine afternoon, and clear night.

19th.—Sunny morning; cloudy after, with a shower at 1.45 P.M., and spots of rain about 3 P.M.

20th.—Overcast early; sunny from 10 A.M.

21st.—Overcast early; sunny from 9 A.M., and brilliant afternoon.

22nd.—Cloudy early and late; rather faint sunshine during the day.

23rd.—Bright from early morning to sunset, and clear night.

24th.—Frequently cloudy till 11 A.M.; bright sun after, and clear night.

Temperature much lower, but still above the average. Another week of extremely small rainfall.—G. J. SYMONS.

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Journal of Horticulture.

THURSDAY, OCTOBER 6, 1898.

THE JOURNAL OF HORTICULTURE can be obtained
from the Office, 12, Mitre Court Chambers, Fleet St.,
London, post free for a Quarter, 3/9. Editorial
communications must be addressed to 8, Rose
Hill Rd., Wandsworth, S.W.

THE GREAT FRUIT SHOW.

IMEASURABLY the greatest fruit show of
the year, certainly in this, and probably in
any other country, was that of which a report
will be found on succeeding pages. It is to be
understood that fruit in the aggregate is referred to
in the above statement. It would not be true as
regards under-glass fruits alone, especially Grapes,
as these are more extensively represented earlier in
the season at Shrewsbury, and possibly at Edin-
burgh. Add to these kinds, which were extensively
and admirably shown last week, the enormous
mass of hardy fruits, notably Apples and Pears,
as represented on heavily laden trees, and also
disposed in more or less artistic piles in great
collections, or shown in thousands of dishes, then
is the verdict justified—the greatest exhibition of
its kind of the season, or of which we have tidings,
from any part of the world.

It was displayed, too, in what we believe to be
by far the most suitable building for large horti-
cultural exhibitions in or near London, if not in the
kingdom. In no building could an exhibition
equal in magnitude to the one under notice be so
effectively displayed as in the Crystal Palace.
The splendid transept was filled from end to end,
and yet there was space for thousands of visitors to
inspect the products without the discomfort that is
inseparable from the packing of humanity in space
too limited for free movement, and which so seriously
detracts from the enjoyment of shows.

As to the character of the exhibition, it was
probably such as to have surprised gardeners and
cultivators generally who reside in the south-eastern
parts of the kingdom. They remembered the
abnormal cold which retarded the advent of
summer and the early growth of fruit, and could
not forget the exhausting heat and prolonged
drought which followed, arresting to a serious
extent the progress of garden crops generally and
impeding the final swelling of fruit. It was there-
fore anticipated that the specimens, particularly of
Apples and Pears, could not be so large as usual.
Possibly, in a few instances, larger may have
been seen at some previous shows, but so have

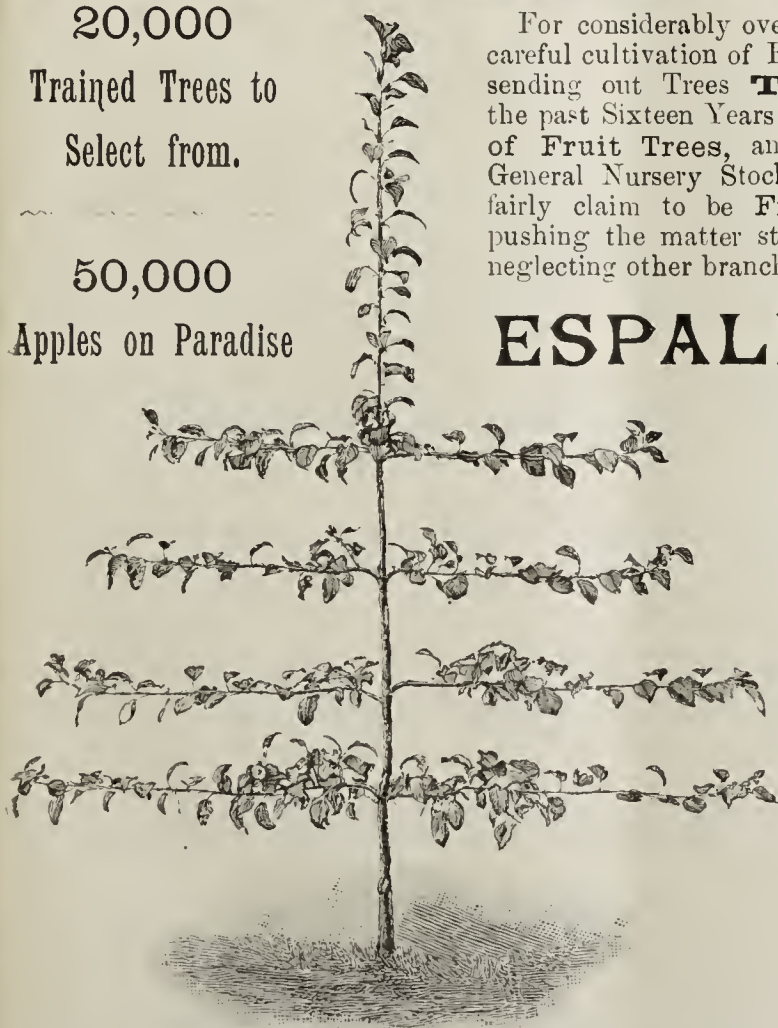
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J. R. PEARSON & SONS, CHILWELL NURSERIES, NOTTS.

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smaller, and regarding the display in its entirety it is very doubtful if a higher average standard of merit has been attained on any former occasion.

Broadly speaking, though there were brilliant exceptions, the colouring of Apples was not so highly developed as usual, and the best coloured, as a rule, were from south-westerly districts where the heat and drought have been less severe than in some other parts of the kingdom in which fruit usually colours well. It has been found by extensive growers of Grapes for market that high night temperatures retard, rather than otherwise, high colouration in their Gros Colmans, and certainly outdoor Grapes have been seen to colour densely when cool nights have prevailed in September and early October. May not similar restful conditions exert an influence in the colouration of Apples? There was not, however, any very great deficiency in that respect at the Palace, and the Show in the aggregate may be fairly described as exhibiting in a striking degree the force and power of intelligent cultivation.

Reverting to colour, it may be noted that a few exhibitors had endeavoured to make good the shortcomings of Nature in colouration by recourse to polishing, and overshot the mark. The attention of the Judges was officially drawn to the presence of polished fruit, the natural bloom of which had been rubbed off, and the surfaces made to shine like mahogany after a dressing of furniture cream. No instructions were given to the Judges, but we think in one instance an exhibitor deprived himself of a prize by his handiwork, and another had a narrow escape of sharing the same fate. There are different ways of polishing Apples. Some persons are said to use a cloth made damp with milk; but it is very well known that a more disgusting method is commonly resorted to, and it is perhaps time it was made public. It is a method with a variation. Some persons spit on the fruits and rub them briskly with a soft cloth or coat sleeve. Others can say they do not spit on the fruit, but they cannot say with truth that they do not spit on the coat sleeve, and in that way apply the polish. These are facts, and now that they are made known, and not too soon, it is hoped the Royal Horticultural Society will consider the desirability of an announcement in their schedules to the effect that artificially polished fruits will be disqualified at the Society's shows.

Perhaps the polishers may take refuge in the dictum of a bacteriologist that the skins of fruits are affected with microbes which are better destroyed. They need be under no perturbation of mind on that score if the allegation is true that a scientist, who when at dessert was observed to dip the Cherries in a glass of water and wipe them before eating said, in reply to a question, it was done to get rid of the microbes; and then soon after, absorbed by the conversation, in a moment of forgetfulness, drank the water, microbes and all, without being a penny the worse. Thus the microbe defence falls to the ground, and fruit polishing may well cease by exhibitors.

As indicative of the magnitude of the show, it may be said that it comprised 1332 exhibits, staged by 161 competitors, apart from collections, many of them of great extent and merit, that were not staged for prizes, but were all the same deservedly honoured.

On the subject of medals, it may be stated that after the death of Dr. Robert Hogg a movement was set on foot to obtain subscriptions from those who valued this eminent pomologist's services to obtain a medal, to be given for meritorious exhibits in hardy fruits. The necessary amount was collected, and the Rev. H. H. D'Ombra and Mr. Harry J. Veitch were appointed to make the necessary arrangements. A suitable die was obtained, and placed in the hands of the Council of the Royal Horticultural Society, for issuing the medals at their discretion, as in the case of the Banksian and other medals. The first distribution of "The Robert Hogg Memorial Medal," in oxidised silver (see page 263) was made at the Palace Show to the following gentlemen, placed in alphabetical order—namely, Mr. George Bunyard, Mr. T. Francis Rivers, and Mr. Harry J. Veitch, for their splendidly meritorious exhibits, alluded to in our report of the show—a show highly creditable to all who shared in producing it, and worthy of the nation.

CRYSTAL PALACE FRUIT SHOW.

SEPT. 29TH AND 30TH, AND OCT. 1ST.

THE display of fruit brought together at the Crystal Palace, by the efforts of the Royal Horticultural Society during the latter half of last week, came as a surprise to many people. It was thought by many persons that the intensely dry and hot summer, following upon a cold, late, ungenial spring, would have so prejudiced the crops as to preclude the possibility of a really excellent and representative exhibition. Happily, however, the result proved otherwise. Some districts, it is true, were noticeably weak in contributions; but, on the other hand, several were equal, if not superior, as compared with previous seasons. The enormous numbers of Apples and Pears that were staged in such splendid condition told an emphatic tale of sound culture, and would probably come as an eye-opener to many hundreds of the visitors. The best of the specimens had medium to large size and colour, with fine substance. We do not mean to say that all reached the same high standard. This was by no means the case, for there were examples both of Apples and of Pears that were far from being perfect. But this must always be the case, and so long as each year shows a higher average of quality than did its predecessor, the aim of the show—the improvement of British-grown fruit—may be said to have been achieved.

Turning to the collections of choicer fruits, we have to record a marked advance over the show of 1897. Not only were these of high average quality, but they were seen in decidedly larger numbers than has hitherto been the case. Peaches and Nectarines, both in this section and in the classes devoted expressly to them, were finely coloured, and in one or two instances of exceptional excellence. Figs, which last season were shown in comparatively large numbers, did not make a great display, only two competitors facing the Judges in the single dish class. Taken as a whole the Grapes were an improvement on last season, but were not yet so good as they ought to be at an exhibition of such importance. There was too great a disparity between the several bunches, some being almost perfect, while others were decidedly poor. They lacked colour and finish, in black varieties as well as white. Black Hamburgs were very mixed, and the major portion of them were losing colour; but Madresfield Court, though not large in bunches, were handsomely shown, as were Gros Maroc. In each of the two last named some of the berries were very large. Appley Towers was good, as was Lady Downe's in one instance. A few of the Muscat of Alexandria were beautifully coloured, but others were badly withered, and lacked colour and finish.

Plums were superb, and rarely has such a display been seen. There were scores of dishes, and the evenness in quality was nothing short of remarkable. Examining them closely time after time hardly brought to light really bad dishes, but on the other hand, many good ones. Cooking and dessert varieties alike were far above the average, and it would be impossible to say that any individual variety was better than its neighbours. The quantity, richness of colouration, size, depth, and intensity of bloom elicited from some of the fruit judges the opinion that it was one of the finest collections ever brought together.

So far as the actual number of exhibits are concerned, there was an advance of three only, there being 1332 this season, as against 1329 last year. But it must be borne in mind that about forty more classes are scheduled this time than was the case in 1897, so that though there were three more entries there is really a large decline. We have previously said that the collections were much larger in numbers than is customary, and the falling off therefore must be credited to the single dish classes, which were not nearly so keenly contested. Some that usually bring from eight to a dozen entrants had only three or four, and such discrepancies as this soon account for a considerable difference in numbers. Then, too, the section for market growers, to which twenty classes were allocated, was to all intents and purposes a failure, as there were very few exhibitors, and none of them sent anything strikingly novel or new, the regulation systems being strictly adhered to. This is a matter for regret, as this section if thoroughly good would be a very valuable one.

Before entering upon the individual classes we must say a word in favour of the managers of the Show, who carried out their by no means light duties in the most praiseworthy manner. So careful had they been that no class was out of place, and every one could be found with the greatest ease. Each section was kept to itself, and the classes ran consecutively. The Rev. W. Wilks and Mr. S. T. Wright were simply indefatigable, both being on the spot ready and willing to give assistance and advice to anyone who cared to ask for them. There is just one thing we should like to suggest, which is that after the judging the exhibits be spaced out so as to occupy the whole of the tabling. It would involve some amount of labour, but the improvement in the general appearance, would, we are sure, be so great as to more than repay the trouble.

AMATEURS' AND GARDENERS' SECTION.

COLLECTIONS.

In the class for a collection of twelve dishes of ripe dessert fruit, of not less than six kinds, there were only two competitors, and some highly creditable produce was staged. It may be noted that in addition to the above, the schedule specified that only one Pine, one Melon, one black and one white Grape could be shown, and not more than two varieties of any other kind, and no two dishes of the same variety. The premier position was accorded to Mr. J. McIndoe, gardener to Sir Joseph.

Pease, Bt., Guisborough, whose collection comprised beautifully finished Gros Maroc and fair Muscat of Alexandria Grapes, Williams' Bon Chrétien and Souvenir du Congrès Pears, Washington Apples, Brown Turkey Figs, Champion Melon, Queen Pine, Sea Eagle and Late Admirable Peaches, Pitmaston Orange Nectarine, and Bryanston Gage Plums. Mr. J. H. Goodacre was a very creditable second, but lost points with his Grapes, of which he showed Black Hamburg and Muscat of Alexandria. Gascoyne's Scarlet and Washington Apples were both fine, as were Doyenné du Comice and Doyenné Boussoch Pears. The remaining dishes were Gladstone and Golden Eagle Peaches, Countess Melon, Queen Pine, Golden Drop Plum, and Pineapple Nectarine.

Though the next class in the schedule is a smaller one, it always creates a considerable amount of interest. This year five exhibitors came forward to compete for the three prizes offered for a collection of eight dishes of ripe dessert fruit in at least four kinds, only one Melon and one black and white Grape being permissible, and from which Pines were excluded. Those growers who staged in the previous class were not eligible to enter in this one. Mr. J. Dawes, gardener to M. Biddulph, Esq., Ledbury Park, Ledbury, was adjudged the first prize. He staged well-coloured Gros Maroc, medium Muscat of Alexandria Grapes, fine Worcester Pearmain Apple and Williams' Bon Chrétien Pear, good Princess of Wales Peach and Jefferson Plum, with Pineapple Nectarine and a seedling Melon. Mr. W. Tidy, gardener to W. R. D'Arcy, Esq., Stanmore Hall, Stanmore, secured the second award with Alnwick Seedling Grapes, Sea Eagle Peach, Kirke's Plum, and Royal Favourite Melon as his best. Mr. F. Cole, gardener to Sir Charles Russell, Bt., Swallowfield Park, Reading, was third, his Gladstone Peaches and Black Alicante Grapes being good.

GRAPES AND FIGS.

Eleven classes were devoted to Grapes, and as has become customary, the exhibits were very numerous, and in several instances of excellent quality. The chief class was for six distinct varieties, two bunches of each, and in which it was essential that both black and white varieties be represented. The coveted first award of £5 went to Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Hall, Derby. The varieties were Gros Colman, Alnwick Seedling, Muscat of Alexandria, Madresfield Court, Black Hamburg, and Black Alicante. The latter was fine in berry and rather lacking in colour, but the Hamburgs were red and small in berry. All the others were good. Mr. F. Cole, gardener to Sir Charles Russell, Bt., Swallowfield Park, was second with Muscat of Alexandria, Black Alicante, and Cooper's Black as his best. Mr. W. Taylor, gardener to C. Bayer, Esq., Forest Hill, was third. There were four competitors in the class.

For six bunches, in three distinct varieties, Mr. Jas. Dawes went ahead with Black Alicante, lacking colour, Gros Maroc, rather small in berry, and good Muscat of Alexandria. Mr. A. Belcher, gardener to Sir E. H. Carbutt, Bt., Nanhurst, Cranleigh, was second with Gros Guillaume, Muscat of Alexandria, and Black Alicante. The third award went to Mr. J. Jones, gardener to Mrs. F. Need, York House, Malvern. There were five competitors in this class.

Some of the Grapes in the class for Black Hamburgs, three bunches, were grand, and represented excellent culture. Others were past their best, and were fast losing colour. Of the seven exhibitors Mr. F. Cole was awarded the premier position with splendidly finished bunches which, if rather small in berry, more than made up in other respects. The second and third prizes went to Messrs. W. Mitchell, gardener to J. W. Fleming, Esq., Chilworth Manor, Romney, and J. H. Goodacre.

Mr. W. Mitchell annexed the leading award for three bunches of Madresfield Court, medium in size, but made up of grandly coloured berries. Mr. J. Jones was a good second, and Mr. J. H. Goodacre a close third. In all four stands competed for the three prizes offered.

For three bunches of either Gros Colman or Gros Maroc, Mr. W. Allan, gardener to Lord Suffield, Gunton Park, Norwich, was first with Gros Maroc very large in berry. Mr. W. Mitchell was second, and Mr. G. Reynolds, gardener to Messrs. de Rothschild, Gunnersbury Park, Acton, third, each with the same variety. The competitors numbered seven.

Black Alicantes were grandly staged, especially by Mr. W. Allan, to whom the chief prize was allotted. The bunches were large, and the berries very dark and of good shape. Mr. W. Howe, gardener to Sir H. Tate, Bt., Park Hill, Streatham, was second; and Mr. F. Cole third, both showing well. There were six exhibitors in the class.

The exhibitors of three bunches of Lady Downe's numbered four, of whom Mr. W. Taylor was placed first with good examples. Mr. W. H. Bacon was second, and Mr. J. Dawes third. In each case the berries were not really finished.

After the special classes for black Grapes as above enumerated, there was one for any other variety, this being won by Mr. W. Mitchell, who showed fine specimens of Mrs. Pince. Mr. J. Hudson was second with Appley Towers, and Mr. W. Tidy third with Alnwick Seedling.

No doubt everybody would expect to see a considerable number of entries in the class for three bunches of Muscat of Alexandria, and in all nine came to the front. The beautiful examples from Mr. A. R. Allan, gardener to Lord Hillingdon, Hillingdon Court, Uxbridge, were decidedly first. Mr. G. Duncan, gardener to C. J. Lucas, Esq., Warnham Court, Horsham, was a creditable second.

For a similar number of bunches of Mrs. Pearson the first prize went to Mr. W. J. Empson, gardener to Mrs. Wingfield, Ampthill House, Ampthill, who was a good first. The bunches were not large, but the berries were finely finished. Mr. G. Reynolds was second; and Mr. G. Lane, gardener to Miss Ridge, Highfield, Englefield Green, third.

Having specified only two varieties of white Grapes, a third class was scheduled for any other variety. There were four competitors, and Mr. G. Reynolds, with Chasselas Napoleon, was an easy first. Mr. G. Lane was second with the same variety, and Mr. W. Allan third with Duke of Buccleuch.

The first position for a dish of Figs, any one variety, went to Mr. W. Mitchell; and the second to Mr. J. Jones, each showing Brown Turkey. They were the only exhibitors.

HARDY FRUIT COLLECTIONS.

There were only two classes for collections of hardy fruits, of which the principal was for fruit grown entirely in the open, and which did not allow more than fifty distinct dishes. Mr. R. Potter was an easy first with a very handsome exhibit. The best Apples were Annie Elizabeth, Warner's King, Alfriston, Gloria Mundi, Grenadier, Mère de Ménage, Lord Derby, Peasgood's Nonesuch, Lady Henniker, Ecklinville Seedling, Ribston Pippin, Alexander, Wealthy, and Betty Geeson. Of Pears the best were Souvenir du Congrès, Duchess d'Angoulême, Baronne de Mello, and Comte de Flandre. Besides these there were Bryanston Gage, Coe's Golden Drop, Pond's Seedling, and Dymond Plums, with Peaches Dr. Hogg, Princess of Wales, Royal George, Lady Palmerston, and Brown Turkey Figs, Kent Cobs, and Warrington Gooseberries. Mr. J. Powell was a most creditable second, and showed fine Peasgood's Nonesuch, Warner's King, Striped Beefing, Lord Derby, The Queen, Gascoyne's Scarlet, Cox's Orange Pippin Apples; Doyenné du Comice, Catillac, Beurré Superfin, Beurré Clairgeau, Louise Bonne de Jersey, and Durondeau Pears, with Peaches, Nuts, Nectarines, Plums, Currants, and others. There were six competitors in this class, and no single one of them showed a really weak stand.

The second and smaller class was designed to illustrate orchard house culture, and was for thirty-six dishes, distinct, grown partially or entirely under glass. The chief prize in this instance again went to Mr. R. Potter, who was in grand form. The collection comprised fair Black Hamburg, Foster's Seedling, and Gros Maroc Grapes; splendid Beurré Diel, Souvenir du Congrès, Madame Treyve, Triomphe de Vienne, Durondeau, and Uvedale's St. Germain Pears; Stone's, Peasgood's Nonesuch, Ribston Pippin, Lady Henniker, and Bismarck Apples; Nectarine, Princess of Wales, Prince of Wales, Lord Palmerston, and a seedling Peaches; Brahy's Green Gage, Coe's Golden Drop, Pond's Seedling, Reine Claude de Bavay, Kirke's, Victoria, and Denbigh Plums, with Negro Largo Figs, and Pineapple Nectarine. Mr. J. McIndoe was a good second, his Alnwick Seedling, Foster's Seedling, and Gros Maroc Grapes being very fine. Good also were Washington, Peasgood's Nonesuch, and Tyler's Kernel Apples; Golden Eagle, Princess of Wales, Barrington, Sea Eagle, Nectarine, and Bellegarde Peaches; Pitmaston Duchess, Marguerite Marillat, and Triomphe de Vienne Pears; Moor Park Apricots; Pond's Seedling, Transparent Gage, Grand Duke, Bryanston Gage, and Monarch Plums; with Brown Turkey and Negro Largo Figs.

CULINARY AND DESSERT APPLES.

There was only one competitor in the class for twenty-four distinct varieties, of which sixteen had to be of the culinary and eight of the dessert section. The only exhibitor was Mr. Geo. Woodward, gardener to Roger Leigh, Esq., Barham Court, Maidstone, who staged handsomely for the first prize. Every dish was a thoroughly good one, and represented the best of culture. Of culinary varieties there were Belle Dubois, Mère de Ménage, Ecklinville Seedling, Peasgood's Nonesuch, Stone's, Lord Derby, Grenadier, Belle Pontoise, Alfriston, Waltham Abbey Seedling, Warner's King, Northern Dumpling, Tower of Glamis, Bismarck, and Twenty Ounce. The dessert Apples comprised Baumann's Reinette, Worcester Pearmain, Washington, Gascoyne's Scarlet Seedling, Ribston Pippin, Wealthy, Cox's Orange Pippin, and American Mother.

Mr. B. Miller, gardener to T. W. Startup, Esq., East Farleigh, Maidstone, in excellent form secured the premier award for twelve dishes of Apples in distinct varieties, eight cooking and four dessert, with of the former Alfriston, Peasgood's Nonesuch, Ecklinville Seedling, Warner's King, Grenadier, Spencer's Favourite, Tibbit's Incomparable, and Yorkshire Beauty. The dessert varieties were Baumann's Reinette, Cox's Orange Pippin, Worcester Pearmain, and Ribston Pippin. Taken as a whole the collection was very praiseworthy. Mr. W. G. Pragnell, gardener to J. K. D. W. Digby, Esq., Sherborne Castle, Dorset, was second. His best examples were Hollandbury, Peasgood's Nonesuch, Warner's King, Annie Elizabeth, American Mother, and Cox's Orange Pippin. The third position was taken by Mr. G. Chambers, Mereworth, whose Peasgood's Nonesuch, Warner's King, Lord Derby, Bismarck, and Ribston Pippin were fine. There were six exhibitors in the class.

For nine varieties of Apples, six cooking and three dessert, Mr. Jas. Dawes was first with splendid examples of Warner's King, Ecklinville Seedling, Lord Suffield, Hollandbury (rather small), Beauty of Kent, and Tyler's Kernel, of culinary sorts, and Cox's Orange Pippin, Ribston Pippin, and Blenheim Pippin of the dessert section. Mr. W. Slogrove, gardener to Mrs. Crawford, Gatton Park, Reigate, was a creditable second with Peasgood's Nonesuch, The Queen, Worcester Pearmain, and Lady Henniker as his best. Mr. E. W. Herbert, gardener to J. T. Charlesworth, Esq., Nutfield Court, Redhill, was third of the four exhibitors who staged. In this and the two preceding classes the dessert varieties had in each case to form the front row.

CULINARY APPLES.

There were five competitors in the class for six distinct varieties of cooking Apples. A grand half dozen of Peasgood's Nonesuch, Lord Derby, Alexander, Belle Dubois, Stone's, and Warner's King secured

the premier award for Mr. G. Woodward. The second prize went to Mr. G. Lock, gardener to B. H. Hill, Esq., Newcombes, Crediton, Devon, who had polished his Apples to an extraordinary degree. His Stone's and Annie Elizabeth were very handsome. Only two prizes were offered, and they were well won.

Some grand fruit was shown by Mr. A. Maxim, who won the chief award for three distinct varieties of cooking Apples. His examples of Alexander were superb, the two others being Warner's King and Lady Henniker, both very fine. Mr. J. Lee, Higher Bebington, Cheshire, was second with Lord Derby, Warner's King, and Bramley's Seedling. There were eleven contestants for the two prizes.

SINGLE DISHES—CULINARY APPLES.

There were five competitors for Alfriston. Mr. G. Woodward was placed first, and Mr. Jas. Hudson second. Beauty of Kent was represented by five dishes, Mr. G. Woodward securing the first prize; and Mr. C. Herrin, gardener to Lady C. Fortescue, Dropmore, Maidenhead, the second. There were eight competitors for Bismarck, the first prize going to Mr. T. W. Sweet, and the second to Mr. G. Woodward. The competition for Bramley's Seedling was excellent, eighteen dishes being staged. Mr. W. Stowers was first with monstrous specimens; Mr. Chas. Ross, gardener to Capt. Carstairs, Welford Park, Newbury, second; and Mr. W. H. Bannister, gardener to H. St. Vincent Ames, Esq., Westbury-on-Trym, third. Cellini was represented by eight dishes, Mr. T. H. Slade securing first honours with a grand dish. Mr. R. M. Whiting was second. There were fourteen dishes staged of Cox's Pomona, all above the average, Mr. G. Woodward secured first place with large, though poorly coloured specimens; Mr. John Powell was second. Wellingtons were represented by ten competitors. Mr. Geo. Chambers was first with well-coloured specimens, and Mr. W. H. Godden second. For Ecklinville Seedling there were thirteen competitors, Mr. G. Woodward being first, and Mr. B. Miller second.

There were only four entries for Emperor Alexander; Mr. G. Woodward was first with a grand dish, and Mr. W. Stowers second. For Frogmore Prolific there were five competitors, Mr. T. Turton being placed first, and Mr. A. Pentney, gardener to A. J. Howard, Esq., Isleworth, second. Golden Noble had only five representatives, of whom Mr. G. Woodward was first, and Mr. H. C. Prinsep second. For Golden Spire there were five dishes staged; Mr. G. Woodward was easily first, and Mr. R. M. Whiting second. The same number was staged in the competition for Grenadier, Mr. B. Miller being first, and Mr. G. Woodward second. There were nine dishes of New Hawthornden; Mr. G. Woodward was first, and Mr. T. W. Herbert, gardener to J. T. Charlesworth, Esq., Nutfield Court, Redhill, second. There were two competitors for Hornead Pearmain; Mr. G. Woodward was first, and Mr. R. M. Whiting second. Eleven competitors staged Lane's Prince Albert, Mr. Edward Chopping taking first, and Mr. H. C. Prinsep second. There were fifteen dishes of Lord Derby, Mr. G. Woodward having the best. Mr. W. A. Basile, gardener to the Rev. O. L. Powell, Woburn Park, Weybridge, was second.

There were three entries for Lord Grosvenor; Mr. C. Herrin secured first place with a very even exhibit, and Mr. G. Woodward the second. There were eleven entries for Lord Suffield; Mr. W. G. Pragnell was first, and Mr. W. Lewis, gardener to T. Oliverson, Esq., East Sutton Park, Maidstone, second. For Mère de Ménage seven dishes were shown; Mr. G. Woodward was first, and Mr. T. H. Slade second. There were only four exhibits of New Northern Greening; Mr. Chas. Ross was first, and Mr. Geo. Chambers second. Newton Wonder had two champions only of northern growers; Mr. J. Bowery was first, and Mr. W. J. Empson second. But there were nine exhibitors from the southern counties with grandly coloured fruit; Mr. F. W. Thomas was first, and Mr. G. Woodward second. Peasgood's Nonesuch claimed eight dishes; Mr. G. Woodward was first, and Mr. W. Lewis second. There were six entries for Potts' Seedling; Mr. G. Woodward was first, and Mr. J. Harris, gardener to Philip Crowley, Esq., Croydon, second. Royal Jubilee brought four dishes, Mr. G. Woodward securing first, and Mr. Chas. Ross second. There were six competitors for Sandringham, but Mr. C. Ross was easily first, Mr. J. Howard, gardener to Sir R. Sutton, Bt., Benham Park, Newbury, was second.

There were four dishes of Spencer's Favourite, Mr. Geo. Woodward being first, and Mr. B. Miller second. Stirling Castle brought ten competitors, Mr. Chas. Ross securing first place, and Mr. R. M. Whiting second. Stone's or Loddington Seedling had seven competitors, Mr. Chas. Ross securing first place, and Mr. Wm. Camm second. The Queen was represented by ten good dishes; Mr. G. Woodward was first, and Mr. B. Miller second. There were seven entries for the Tower of Glamis, Mr. G. Woodward being first, and Mr. J. Howard second. There were only two entries for Tyler's Kernel, but both were very fine; Mr. G. Woodward was first, and Mr. S. Lyon, gardener to R. R. Salmon, Esq., Rowton, Chester, second. Warner's King was staged by fourteen exhibitors; Mr. G. Woodward was first, and Mr. Geo. Chambers second. There were fifteen entries in the class for any other variety; Mr. G. Woodward was placed first with a grand dish of Gloria Mundi, and Mr. W. Jones, gardener to J. R. Brougham, Esq., Carshalton, second with Dutch Codlin.

DESSERT APPLES.

Though only two classes were set apart for dessert Apples, the display made was a very fine one indeed, and taken as a whole the examples were most creditable. For six distinct varieties Mr. George Woodward was first with Washington, Wealthy, Ribston Pippin, Worcester Pearmain, American Mother, and Cox's Orange Pippin. Mr. B. Miller was a capital second with King of the Pippins, Cox's

Orange Pippin, Baumann's Red Reinette, Gascoyne's Scarlet Seedling, Worcester Pearmain, and Ribston Pippin.

The prizewinners for three dishes of dessert Apples were Messrs. A. Pentney, and J. C. Tallach, gardener to E. Dresden, Esq., Livermere Park, Bury St. Edmunds, in the order in which their names are here given. The winner's varieties were Ribston Pippin, American Mother, and King of the Pippins. Mr. Tallach sent Blenheim Pippin, King of the Pippins, and Ribston Pippin. There were thirteen exhibitors in the class.

SINGLE DISHES—DESSERT APPLES.

There were eight competitors for a single dish of Adams' Pearmain. The first prize was secured by Mr. G. Lock with a grandly coloured dish. Mr. Wm. Camm, gardener to the Duchess of Cleveland, Battle Abbey, was second. There were four competitors for Allen's Everlasting, Mr. H. Henley, gardener to E. J. Johnston, Esq., Rougham Hall, Bury St. Edmunds, taking the second prize. There were seven competitors for Allington Pippin, the first prize being awarded to Mr. Geo. Woodward with well-coloured examples. Mr. J. Powell, gardener to Col. Brymer, M.P., Dorchester, was second. Nine competitors faced the judges for Baumann's Red Winter Reinette. Mr. Geo. Woodward was placed first with well-coloured fruits. Mr. W. Slogrove was second. There were sixteen competitors for Blenheim Orange. Mr. T. H. Slade, gardener to Lord Poltimore, Poltimore Park, Exeter, was first with a grand dish. Mr. Richard M. Whiting was second. Six competitors staged Brownlee's Russet. Mr. George Chambers, Mereworth, Maidstone, was placed first; and Mr. G. Woodward second.

In the competition for Claygate Pearmain there were seven competitors. Mr. R. M. Whiting was well ahead, followed by Mr. G. Woodward. There were five competitors in the class for Cackle's Pippin. Mr. S. Kidley, gardener to W. A. Sandford, Esq., Nynhead Court, Wellington, Somerset, was first; and Mr. H. Henley second. Why Mr. G. Woodward's excellent exhibit was left out it is difficult to understand. For Court Pendu Plat seven exhibitors staged. Mr. J. C. Tallach was first with a beautiful dish, followed by Mr. J. Vert. Twenty-six dishes of Cox's Orange Pippin were staged in good form. Mr. W. King was placed first, and Mr. Geo. Woodward second. There were six competitors for Duke of Devonshire, Mr. G. H. Sage proving the victor with a very nice dish. Mr. H. C. Prinsep, gardener to Viscountess Portman, Buxted Park, was second. For Egremond Russet there were six competitors, Mr. C. Earl, gardener to O. E. d'Avigdor Goldsmid, Esq., Tonbridge, was well ahead, followed by Mr. R. M. Whiting.

Nine dishes of Fearn's Pippin were staged, and the first prize was awarded to Mr. W. Stowers, gardener to G. Dean, Esq., Whitehall, Sittingbourne. Mr. G. Lock was second. There were six competitors for Gascoyne's Scarlet Seedling. Mr. W. Stowers was first with a grand dish; and Mr. F. W. Thomas, Wannocho Polegate, Sussex, second. There were only two competitors for James Greive, Mr. J. Day being placed first; Mr. F. B. Parfitt, Farleigh House, Reading, was second. The popular King of Pippins was only represented by ten competitors, Mr. Geo. Chambers being placed first and Mr. H. C. Prinsep second. For a dish of King of Tompkin's County four competitors staged, Mr. G. Woodward being well ahead of the other competitors; Mr. J. Powell was second. There were eight competitors for Mannington's Pearmain. Mr. J. Turton was placed first with well-coloured fruits; Mr. C. Harris, gardener to O. A. Smith, Esq., Hammerwood Lodge, East Grinstead, was second. Twelve competitors staged Margil, and the most successful was Mr. Geo. Woodward, with Mr. T. H. Slade second. American Mother was represented by five dishes, Mr. G. Woodward being placed first with excellently grown, rich-coloured specimens, and Mr. H. Henley second. Sixteen dishes of Ribston Pippins were a good representation of this popular Apple. Mr. T. H. Slade was placed first with a dish of brightly coloured fruits, followed by Mr. Ed. Chopping, Periwinkle Mill, Milton, Sittingbourne.

There were six competitors for Scarlet Nonpareil. Mr. G. Woodward was placed first; and Mr. Jas. Hudson, gardener to Leopold de Rothschild, Esq., Gunnersbury House, Acton, second. In the class for Sturmer Pippin six exhibitors staged. Mr. W. G. Pragnell was first, and Mr. R. Chamberlain second. There were thirteen competitors for Worcester Pearmain, many dishes being spoiled by the polishing process. Mr. W. King was first, and Mr. G. Woodward second. Twenty-one competitors staged in the class for any other variety, and a very interesting collection they were. Mr. G. Woodward was awarded first with Mabbot's Pearmain, and Mr. B. Miller second with Lady Falmouth.

DESSERT PEARS.

The class for twelve distinct varieties of dessert Pears was a very good one, and the fruits from Mr. G. Woodward, who was first, were handsome. The varieties were Triomphe de Vienne, Pitmaston Duchess, Beurré Marillat, Marguerite Marillat, Doyenné de Merode, Doyenné du Comice, Durondeau, Beurré Hardy, Gansel's Bergamot, Beurré Superfin, Emile d'Heyst, and Duchesse d'Angoulême. Mr. W. Allan was second, his best dishes being Durondeau, Emile d'Heyst, Marie Louise d'Uccle, Pitmaston Duchess, Doyenné du Comice, and Marie Louise. The third position was assigned to Mr. W. H. Bacon.

For nine distinct dessert Pears Mr. W. G. Pragnell was first with Beurré Diel, Durondeau, Pitmaston Duchess, Beurré Bachelier, Marguerite Marillat, General Todtleben, Maréchal de Cour, Marie Louise, and Beurré Superfin, all in fine condition. Mr. J. Powell was a good second with Marie Louise, Souvenir du Congrès, Doyenné du Comice, Durondeau, and Pitmaston Duchess as his best. The third prize was awarded to Mr. W. Jones, gardener to J. R. Brougham, Esq., Wallington Bridge.

The chief prize for six dishes of dessert Pears, distinct, was appropriated by Mr. G. H. Sage, gardener to the Marquis of Camden, Bayham

Abbey, Lamberhurst, who staged Pitmaston Duchess, General Todtleben, Beurré Bachelier, Souvenir du Congrès, Williams' Bon Chrétien, and Doyenné du Comice. Mr. W. A. Cook, gardener to Major Heneage, V.C., Compton Bassett, Calne, Wilts, was second with Williams' Bon Chrétien, Pitmaston Duchess, Doyenné du Comice, Conseiller de la Cour, Louise Bonne de Jersey, and Marie Louise. There were ten competitors in the class.

Of the nine exhibitors who showed three dishes of dessert Pears, distinct, Mr. R. Edwards, gardener to G. H. Field, Esq., Beechy Lees, Otford, was adjudged to the highest position. His dishes were Pitmaston Duchess, Madame Treyve, and Triomphe de Vienne. Mr. G. Fennell, gardener to M. Cazalet, Esq., Fairlawn, Tonbridge, was second with Pitmaston Duchess, Marguerite Marillat, and Souvenir du Congrès.

SINGLE DISHES—DESSERT PEARS.

For Beurré Bosc there was only one competitor, Mr. J. Howard, who was awarded first prize. For Beurré d'Anjou there were five entries. Mr. G. H. Sage was first, and Mr. J. Spottiswood, Queen's Park, Brighton, second. Beurré Diel was exhibited by eleven competitors. Mr. W. G. Pragnell took first with a grand dish, and Mr. G. Wythes, gardener to the Right Hon. Earl Percy, Syon House, Brentford, second. There were only three dishes of Beurré Dumont, Mr. R. Potter taking first position and Mr. A. Basile second. Beurré Fouquieray had three representatives, Mr. G. Woodward taking first place and Mr. J. Hudson second. Beurré Hardy brought out eight competitors, but Mr. G. Woodward was well ahead, followed by Mr. H. C. Prinsep. Five competitors staged Beurré Superfin. Mr. G. Woodward was placed first and Mr. H. J. Harvey second. Of Comte de Lamy five dishes, but they were not very notable. Mr. W. Allan, gardener to Lord Suffield, Gunton Park, Norwich, was first and Mr. T. W. Herbert second. A similar number of dishes represented Conference. Mr. G. Woodward was first and Mr. E. W. Thomas second.

Maréchal de Cour was strongly staged by seven growers, all above the average. Mr. J. Powell was first and Mr. Chas. Ross second. Doyenné du Comice brought out eight exhibitors, but they were all below par. Mr. J. Powell was first and Mr. G. Woodward second. There were seven dishes of Durondeau, Mr. G. Woodward being first and Mr. W. G. Pragnell second. Easter Beurré had only four entries, but they were all first-rate. Mr. W. Jones was first and Mr. J. Powell second. Emile d'Heyst had only three representatives, but they were all good. Mr. G. Woodward first and Mr. G. Fennell, gardener to W. M. Cazalet, Esq., Fairlawn, Tonbridge, second. There were seven competitors for Fondante d'Automne, Mr. H. C. Prinsep securing first and Mr. J. Powell second. Fondante de Thirriott had only two entries, Mr. G. Woodward taking first honours, followed by Mr. W. Child, gardener to F. M. Rendell, Esq., Shirley, second. The popular Glou Morceau had only two dishes staged in its honour. Mr. G. Woodward was first and Mr. J. Powell second. There were six dishes of Josephine de Malines, Mr. J. Powell taking first and Mr. J. Fraser, gardener to F. S. Davies, Esq., Coldra, Caerleon, Mon., second.

The handsome Le Lectier had only two entries. Mr. W. Jones was first and Mr. A. Basile second. There were seven entries for Louise Bonne de Jersey. Mr. W. Camm was first and Mr. G. Duncan, gardener to C. J. Lucas, Esq., Warnham Court, Horsham, second. Madame Treyve was well shown by four dishes of exceptional quality. Mr. G. Woodward was first, and Mr. R. Edwards, gardener to G. H. Field, Esq., Beechy Lees, Sevenoaks, second. There was only one entry for Marie Benoist, from Mr. W. H. Godden, gardener to F. W. Buxton, Esq., Pishiobury, Sawbridgeworth, who was awarded the first prize. Marie Louise was staged in good form by five exhibitors. Mr. W. Allan was first and Mr. W. G. Pragnell second. Marie Louise d'Uccle was represented by four dishes. Mr. W. Allan was first and Mr. J. Webb second. Marguerite Marillat had four representatives, all of good quality. Mr. G. Woodward was first and Mr. E. W. Thomas second. Nouvelle Fulvie had only three entries, Mr. G. Wythes taking first and Mr. G. Woodward second. Olivier de Serres only produced two entries, Mr. C. Harris being placed first and Mr. G. Woodward second.

Pitmaston Duchess brought out a grand competition of eighteen entries, all of them really notable specimens; Mr. G. Lock was first, and Mr. R. Chamberlain second. Seckle was represented by four dishes, Mr. H. C. Prinsep was first, and Mr. C. Ross second. Souvenir du Congrès, with eight entries, made a good display; Mr. C. Herrin was first, and Mr. A. Coleman, gardener to Lt.-Col. Sir C. Prevost, Bt., Dursley, second. There were six competitors for Thompson's, Mr. John Powell was first, and Mr. W. Allan second. Winter Nelis had eight dishes staged, Mr. Thos. Bennett was first, and Mr. J. Harris second. In the class for any other variety there were twenty competitors; Mr. G.

Woodward secured first with Triomphe de Vienne, and Mr. R. Hardesty, Bletchingley, second with Clapp's Favourite.

CULINARY PEARS.

Naturally enough the classes for culinary Pears were less numerous than those for dessert varieties; indeed there were two only, of which the principal was for three distinct varieties. For this there were three competitors, and Mr. G. Woodward securing the premier award with splendid examples of Catillac, General Todtleben, and Triomphe de Jodoigne. Mr. W. H. Bacon, gardener to Sir Marcus Samuel, Mote Park, Maidstone, with Catillac, General Todtleben, and Vicar of Winkfield, was second.

For one dish of culinary Pears the prizetakers were Messrs. R. Potter, gardener to Sir Mark W. Collet, Bt., St. Clere, Kemsing, with immense fruits of Desse Tardive, and Mr. J. Powell, gardener to Col. Brymer, Dorchester, with Uvedale's St. Germain. Thirteen dishes were staged in this class.

PEACHES AND NECTARINES.

These classes almost invariably claim a considerable amount of interest from visitors, and this show proved no exception. For three distinct varieties of Peaches Mr. G. Woodward, out of seven exhibitors, was first with beautifully coloured specimens of Sea Eagle, Nectarine and Princess of Wales. Mr. A. Maxim, gardener to Col. H. Walpole, Heckfield Place, Winchfield, was a good second with identical varieties. Mr. A. Pentney, gardener to A. J. Howard, Esq., Worton Hall, Isleworth, was third.

The best stager of one dish of Peaches was Mr. G. Wythes, gardener to Earl Percy, Syon House, who sent Sea Eagle in grand form. Mr. T. H. Wren, gardener to Lord Field, Bakeham, Englefield Green, also sent the same variety, and was placed second.

In the class for three distinct varieties of Nectarines there were three competitors. Mr. G. Woodward was a decided first with Humboldt, Rivers' Orange, and Pineapple. Mr. C. Earl, gardener to O. E. Goldsmid, Esq., Tonbridge, was second, and Mr. A. Maxim third.

For one dish of Nectarines, Mr. H. Reddin, gardener to G. W. Bird, Esq., Manor House, West Wickham, was placed first with Victoria, the fruits being green and unripe. The second prize dish was Pineapple in fine condition, but there was no name card on it.

PLUMS.

Considering the lateness of the date Plums made a fine display, and, as has been said, some beautiful fruits were exhibited. For four distinct dessert varieties Mr. J. Vert, gardener to Lord Braybrooke, Audley End, Saffron Walden, took the lead of eleven exhibitors. The varieties represented Coe's Violet, Transparent Gage, Coe's Golden Drop, and Jefferson, all in excellent condition. Mr. W. King, gardener to J. Colman, Esq., Gatton Park, Reigate, was second with Kirke's, Coe's Golden Drop, Transparent Gage, and Jefferson.

Mr. J. Vert again secured the premier award for a dish of dessert Plums in any one variety, his examples of Coe's Golden Drop being superb. Mr. W. Pope, gardener to the Earl of Carnarvon, Highclere Castle, Newbury, was second. There were about a score of exhibitors.

The class for one dish of Gages brought forth about fifteen competitors, of whom Mr. W. King, with Transparent Gage, was a splendid first; and Mr. J. Powell, with Reine Claude de Bavay, second.

Culinary Plums made a capital little show, despite the fact that only two classes were devoted to them. Of these the chief was for four varieties, distinct, and there were over a dozen contestants. Mr. W. Pope was first with Pond's Seedling, Monarch, Victoria, and Grand Duke, all splendidly staged. Mr. J. Vert with Magnum Bonum, Grand Duke, Monarch, and Pond's Seedling, was a good second.

For a dish of any variety of cooking Plums, Mr. W. Camm, gardener to the Duchess of Cleveland, Battle Abbey, was first with grand white Magnum Bonum, followed by Mr. A. Andrews, gardener to Hon. W. Lowther, Wickham Market, with Pond's Seedling. There were about two dozen exhibitors.

In the class for four dishes of Damsons, Prunes, and Bullaces, distinct, Mr. G. Fennell was first, and Mr. W. J. Empson second.

SPECIAL DISTRICT COUNTY SECTION.

The special district county prizes brought out a good competition, except in the premier fruit-growing county of Kent, where one would look for a very keen contest. There were only three competitors in the class for six dishes of Apples, distinct, four cooking and two dessert. Mr. W. Stowers, 10, Harold Road, Sittingbourne, was first with a very even collection. The varieties were Peasgood's Nonesuch, Lane's Prince Albert, Emperor Alexander, Bramley's Seedling, Worcester Pearmain, and Cox's Orange Pippin. Mr. G. H. Sage, gardener to the Marquis of

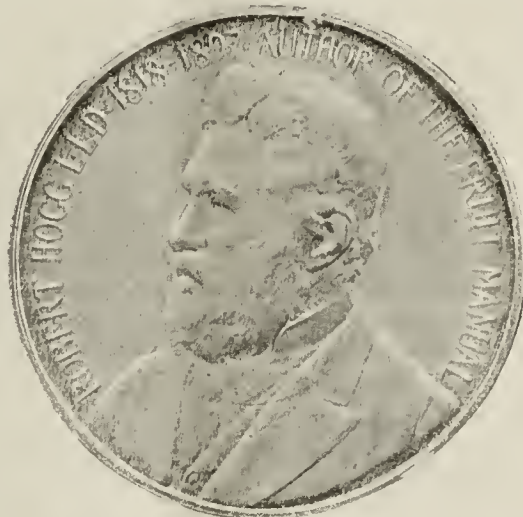


FIG. 46.—THE ROBERT HOGG MEMORIAL MEDAL.



Camden, Bayham Abbey, Lamberhurst, was second with smaller fruits, which were also lacking in colour.

There was only one competitor for six dishes of Pears, Mr. G. H. Sage, who was awarded first prize for an even exhibit. The varieties were General Todtleben, Pitmaston Duchess, Doyenné du Comice, Beurré Bachelier, Souvenir du Congrès, and Williams' Bon Chrétien.

In the class open only to growers in Surrey, Sussex, Hants, Dorset, Somerset, Devon, and Cornwall, there were eight competitors, Mr. Wm. Camm, gardener to the Duchess of Cleveland, Battle Abbey, Sussex, was placed first with six very fine dishes, though lacking in colour. The varieties were Stirling Castle, Warner's King, Mère de Ménage, Peasgood's Nonesuch, Ribston Pippin, and Cox's Orange Pippin. Mr. G. Lock, gardener to B. H. Hill, Esq., Newcombes, Crediton, Devon, second with grand dishes of Peasgood's Nonesuch, Emperor Alexander, Stirling Castle, and Warner's King.

In Pears too the competition was keen. Mr. W. Slogrove, gardener to Mrs. Crawford, Gatton Cottage, Reigate, was placed first with good dishes of Pitmaston Duchess, Fondante de Cuerné, Beurré d'Amanlis, Souvenir du Congrès, Louise Bonne de Jersey, and Beacon. Mr. J. Webb, gardener to H. Padwick, Esq., Manor House, Horsham, was second with excellent examples of Pitmaston Duchess, Beurré Superfin, Doyenné du Comice, Marie Louise, and Williams' Bon Chrétien.

Open to growers in Wilts, Gloucester, Oxford, Bucks, Berks, Beds, Herts, and Middlesex there were nine competitors. Mr. T. Turton, gardener to Mrs. G. Garden Nicol, Maiden Erlegh, Reading, was placed first with a good display of Peasgood's Nonesuch, Warner's King, Loddington Seedling, Mère de Ménage, Ribston Pippin, and Cox's Orange Pippin. Mr. W. J. Empson, gardener to Mrs. Wingfield, Ampthill, was second with good dishes of Mère de Ménage, Peasgood's Nonesuch, Warner's King, Stone's, and Worcester Pearmain.

There were eight competitors for the six dishes of Pears. Mr. W. A. Cook, gardener to Major Heneage, Compton Bassett, Wilts, secured first place with good dishes of Williams' Bon Chrétien, Pitmaston Duchess, Marie Louise, Doyenné du Comice, Louise Bonne de Jersey, and Beurré Diel. Mr. R. Chamberlain, gardener to F. M. Lonergan, Esq., Cressingham Park, Reading, was second with good dishes of Pitmaston Duchess, Doyenné Boussoch, Williams' Bon Chrétien, Clapp's Favourite, and Doyenné du Comice.

In the class open to Essex, Suffolk, Norfolk, Cambridge, Hants, and Rutland there were four competitors. Mr. J. Bowery, gardener to H. H. Hurnard, Esq., Gurneys Manor, Hingham, was placed first with Loddington Seedling, Warner's King, Bramley's, Ribston Pippin, Peasgood's Nonesuch, and Cox's Orange Pippin. Mr. J. C. Tallach, gardener to E. Dresden, Esq., Livermere Park, Bury St. Edmunds, was second with good examples of Catshead, Warner's King, Emperor Alexander, and Ribston Pippin.

There were only two competitors for the six dishes of Pears, Mr. A. Andrews, gardener to the Hon. W. Lowther, Campsea Ash, Wickham Market, came first with Souvenir du Congrès, Pitmaston Duchess, Williams' Bon Chrétien, Doyenné du Comice, Beurré Hardy, and Maréchal de Cour. Mr. J. W. Nicholson, gardener to J. W. Melles, Esq., Sewardstone, Chingford, was second with clean examples of Durondeau, Princess, Pitmaston Duchess, Beurré Diel, and Doyenné du Comice.

In the class open to growers in Lincoln, Northampton, Warwick, Leicester, Notts, Derby, Staffs, Shropshire, and Cheshire, Mr. J. Lee, Higher Bedington, Cheshire, secured first place with a capital exhibit; Ecklinville Seedling, Warner's King, Alfriston, Peasgood's Nonesuch, Worcester Pearmain, and King of the Pippins were the varieties employed, and the exhibit was very creditable indeed for an amateur. Mr. W. Divers, gardener to the Duke of Rutland, Belvoir Castle, Grantham, was second with good dishes of Dewdney's Seedling, Stirling Castle, Warner's King, and Cox's Orange Pippin.

There were only two competitors for Pears. Mr. Thos. Bennett, Shavington Gardens, Market Drayton, was first with Beurré d'Amanlis, Pitmaston Duchess, Williams' Bon Chrétien, Doyenné du Comice, Louise Bonne de Jersey, and Marie Louise. Mr. W. H. Divers was second with notable dishes of Williams' Bon Chrétien, Beurré d'Anjou, and Beurré Hardy.

Open to growers in Worcester, Hereford, Monmouth, Glamorgan, Carmarthen, and Pembroke. This section was weak, only two competitors faced the ordeal. Mr. Richard M. Whiting, Credenhill, Hereford, was placed first with good dishes of Peasgood's Nonesuch, Lord Derby, Bramley's Seedling, Stirling Castle, Cox's Orange Pippin, and Worcester Pearmain. Mr. R. E. Bateman, Mount Villa, Ryelands Road, Leominster, was second with good dishes of Peasgood's Nonesuch, Beauty of Kent, Bismarck, and Cox's Orange Pippin. There was no competitor in the Pear classes in this division.

Open to growers in the other counties of Wales. Mr. G. J. Squibbs, gardener to the Dowager Lady W. Wynn, Llangedwyn, Denbighshire, first with Lord Suffield, Tower of Glamis, Mère de Ménage, Gloria Mundi, Ribston Pippin, and Cox's Orange Pippin. Mr. L. P. Pugh, Abermaide, Aberystwith, was second; his best dishes were Alfriston, Hawthornden, and King of Pippins.

Mr. G. Squibbs repeated his success by taking the first prize for Pears with dishes of Beurré Diel, Beurré Rance, Doyenné du Comice, Bon Chrétien, Fondante d'Automne, and Marie Louise. Mr. L. P. Pugh was second; his best dishes were Pitmaston Duchess, Flemish Beauty, Beurré Clairgeau, and Beurré Brown.

Open only to growers in the six northern counties of England and the Isle of Man. There were only two competitors in this class. Mr. J. Jeffrey, gardener to the Earl of Harewood, Leeds, was first with Lord

Suffield, Alfriston, Stirling Castle, Potts' Seedling, Cox's Orange Pippin, and Worcester Pearmain. Mr. R. J. Hird, Roselea, Formby, was second with a weaker exhibit; the best dishes were Lord Suffield, Warner's King, Lord Derby, and Waltham Abbey Seedling. There were no competitors in the Pear class.

Open to growers in Scotland. Only one competitor, Mr. J. Day, gardener to the Earl of Galloway, Galloway House, Garlieston, who was deservedly placed first with an even exhibit of Warner's King, Peasgood's Nonesuch, The Queen, Stone's, James Grieve, and Worcester Pearmain.

The same exhibitor was successful in the Pear class with a very creditable exhibit. His varieties were Doyenné Boussoch, Pitmaston Duchess, Williams' Bon Chrétien, Madame Treyve, Gratioli of Jersey, and Louise Bonne de Jersey. There were no competitors from Ireland.

NURSERYMEN'S SECTION.

Throughout this section the prizes, instead of being in money, took the form of medals, and the awards were just as much coveted, though the exhibitors were not so numerous. For a collection of fruit trees bearing fruit, in pots, Messrs. T. Rivers & Son, Sawbridgeworth, received the first prize of a gold medal. In the schedule it was stated that "gathered fruit and nuts may be placed in the space between the pots, but will not be taken into account by the Judges," and of this no advantage was taken. Messrs. Rivers were apparently the only exhibitors, and the exhibit was singularly handsome. The trees varied in kind and in size, but all alike were heavily laden with excellent fruits. Of Apples there were Emperor Alexander, Blenheim Pippin, Bijou, Melon, and Bismarck; Pears, Conference, Pitmaston Duchess, Louise Bonne de Jersey, and Marie Louise; Plums, President, Pond's Seedling, Coe's Golden Drop, and Rivers' Late Orange (a grand yellow fruited variety that is very prolific), with Figs, and Peaches Gladstone, Lord Palmerston, and Albatross.

A very interesting class was that for a collection of hardy fruits, grown partly or entirely under glass, to illustrate orchard house culture, and in which the first prize (gold medal) was handsomely won by Messrs. G. Bunyard & Co., Maidstone, who were the only exhibitors. There were upwards of a dozen trees in pots, representing Pears, Plums, Apples, Peaches, and Figs, while on the table were splendid Apples Belle Dubois, Peasgood's Nonesuch, Yorkshire Beauty, Potts' Seedling, Lady Henniker, Ecklinville Seedling, Beauty of Kent, Annie Elizabeth, Wealthy, Emperor Alexander, Golden Noble, Queen Caroline, The Queen, King of Tompkins County, Royal Jubilee, Washington, Reinette du Canada, Stone's, Cornish Aromatic, and Gascoyne's Scarlet Apples. The pick of the many splendid Pears were Emile d'Heyst, Beurré Hardy, Beurré Rance, Beurré Bosc, Comte de Flandre, Pitmaston Duchess, Marie Louise d'Uccle, Beurré Fouqueray, Durondeau, Catillac, Marie Benoist, Beurré Superfin, Doyenné du Comice, Vicar of Winkfield, Marie Louise, Triomphe de Vienne, and Glou Morceau. Such Plums as Victoria, Magnum Bonum, Pond's Seedling, Monarch, Coe's Golden Drop, and Black Orleans were grand, while Princess of Wales, Sea Eagle, Gladstone, and Nectarine Peaches, with Tomatoes, were very creditable.

Messrs. G. Bunyard & Co. staged magnificently in the class for a collection of not less than seventy-five, or more than 100 distinct varieties of hardy fruits, in baskets or dishes, grown entirely in the open air; arranged on a table of about 24 feet by 6 feet, or an equivalent space; foliage plants could be added and branches of any fruit-bearing trees or bushes. The Apples were as good as need be wished for, more particularly Newton Wonder, Northern Dumpling, Allington Pippin, Peasgood's Nonesuch, Castle Mayor, Gold Medal, Duchess of Oldenburg, Wealthy, Ribston Pippin, Lord Grosvenor, Bramley's Seedling, Bismarck, Mère de Ménage, Egremont Russet, Grenadier, Chelmsford Wonder, Potts' Seedling, Lady Sudeley, Golden Noble, Belle de Pontoise, Stirling Castle, Golden Spire, and Emperor Alexander. The finest Pears were Durondeau, Doyenné du Comice, Catillac, Duchesse d'Angoulême, Marie Louise, Williams' Bon Chrétien, Brockworth Park, Nouveau Poiteau, and Pitmaston Duchess. In addition to these Plums were very fine, and the gold medal was well won; the Council in addition granting a Hogg Memorial medal. Mr. H. Berwick, Sidmouth, Devon, showed well for the second position. Several of his Apples were very fine, the colour in some being particularly rich. Pears and Plums were also good.

For a collection of not less than thirty or more than fifty distinct varieties of hardy fruits, in baskets or dishes, grown entirely in the open air, arranged on a table of about 24 feet by 3 feet or an equivalent space, foliage plants could be added and branches of any fruit-bearing trees or bushes. The premier award in this case was a silver-gilt medal, which went to Mr. G. Mount, Canterbury, whose fame as a Rose grower has somewhat overshadowed his skill in fruit culture. Of Apples, his examples of Peasgood's Nonesuch, Worcester Pearmain, Cox's Orange Pippin, Gascoyne's Scarlet, Royal Jubilee, Lord Derby, Cellini, Grenadier, Bismarck, Bramley's Seedling, Mère de Ménage, Lady Sudeley, and Stirling Castle were fine. These with others and a few Pears made up the stand. Mr. J. Colwill was second with a more diversified exhibit. There were Pears, Apples, Plums, Quince, Medlars, and Raspberries. Mr. J. Basham was a good third, and made up the trio of competitors.

The most successful competitor in the class for a collection of from thirty to thirty-six distinct varieties of Pears, in baskets or dishes, grown entirely in the open air, arranged on a table of about 24 feet by 3 feet or an equivalent space, foliage plants could be added and branches of any fruit-bearing trees or bushes, was Mr. H. Berwick who was apparently the only stager, and received the first prize. King Edward, Williams' Bon Chrétien, Durondeau, Beurré Bachelier, Catillac, Pitmaston Duchess, Uvedale's St. Germain, and Beurré Clairgeau were fine.

The silver gilt medal offered as the premier award for a collection of fifty distinct varieties of Apples, in baskets or dishes, grown entirely in the open air, arranged on a table of about 24 feet by 3 feet or an equivalent space (foliage plants could be added, and branches of any fruit-bearing trees or bushes), was adjudged to Mr. J. Colwill, Sidmouth, Devon. Some of the most conspicuous varieties were Yorkshire Beauty, Gascoyne's Scarlet, Peasgood's Nonesuch, Blenheim Pippin, Worcester Pearmain, Golden Noble, Bismarck, Ecklinville Seedling, Sandringham, Tyler's Kernel, Roundway Magnum Bonum, New Hawthornden, Beauty of Kent, Newton Wonder, and American Mother. Mr. John Basham, Bassaleg, Newport, Mon., was second with an exhibit of good average quality.

MARKET GROWERS' SECTION.

Last year no classes were scheduled for market growers, but on the occasion under notice there were exactly a score. It is very desirable that this phase of fruit culture be brought forward, as many persons who can grow excellent fruit fail utterly when it comes to be packed. The exhibits then in this section could not have had much educational value to the thousands of visitors, as no special methods of procedure were illustrated. In any of the subjoined classes the prizewinners could take medals of a kindred value to the prize given if they preferred to do so.

The most successful exhibitors of any black Grape, packed as in a baby basket, were Messrs. W. & E. Wells, Hounslow, who sent Gros Colman splendidly packed, and of good quality. The basket was in a box sufficiently deep to prevent the upper berries being rubbed. There were three entries in the class.

Next came a class for any variety of Grapes, packed for market in any receptacle other than a baby basket, and relative to which a proviso was added in the schedule, to the effect that no prize would be awarded unless the Judges considered the box, basket, or other receptacle *superior* for transit by rail to baby baskets in flats. Mr. J. Gore was placed first. He utilised a cross-handled basket, which is probably the best form of receptacle that can be employed for Grapes.

Mr. J. Basham, Bassaleg, went ahead for four varieties of culinary Apples, about 42 lbs. net of each, to be packed in baskets or boxes. He utilised flats, and the fruits were placed in rows between wood wool. The system was undoubtedly an excellent one. The varieties were Ecklinville Seedling, Bismarck, Lord Derby, and Lane's Prince Albert. Mr. A. Wyatt, Hatton, Middlesex, who was second, used ordinary round hampers.

In the corresponding class for four distinct varieties of dessert Apples, but only 20 lbs. net of each, the chief prizewinners were Messrs. A. Wyatt and G. Tebbutt, Isleworth. In each instance a round was used, and the fruits looked very handsome. There were three entries in the class.

For about 42 lbs. net of any one variety of cooking Apples Mr. G. Tebbutt, with Lady Henniker, was first, and Mr. A. Wyatt, with Wellington, second. Both employed rounds, and sent excellent fruit. There were five contestants in the class. Mr. W. Mackenzie Bradley, Meopham, showed 20 lbs. of any one dessert Apple in a box or basket best, and was followed by Mr. J. Jenner, Roughway, Tonbridge. In this instance, again, there were five exhibitors.

Coming now to Pears, we found two classes, of which the first was for two varieties in two packages of about 20 lbs. capacity each. Mr. A. Wyatt was a good first and Mr. G. Tebbutt second, both showing good fruits in rounds.

The second Pear class was for from twenty-four to forty-eight fruits, according to size, of any one choice dessert variety, suitably packed in one package for market. Mr. A. Wyatt was again first with Durondeau in a flat. Messrs. W. & E. Wells were second with Souvenir du Congrès. There were four exhibitors in the class.

The best exhibitor of about 28 lbs. of any culinary Plum, packed in any receptacle for market use, was Mr. G. Tebbutt; but the second prize only was awarded. A round hamper was employed.

The premier award for a basket or box of about 28 lbs. of any one variety of Damsons was deservedly accorded to Mr. A. Wyatt, who exhibited a splendid round. There was one other exhibitor, but no further prize was given.

For twenty-four Peaches packed in a suitable box Mr. J. Gore was first. The fruits were in six rows, each individual specimen being in tissue paper and wadding, and the rows and fruits separated with wood wool. Mr. J. Miller, gardener to Lord Foley, Ruxley Lodge, Esher, was second, but his exhibit was decidedly inferior to that of Mr. Gore.

Mr. J. Jenner went ahead in the class for about 20 lbs. of Filberts or Cobs suitably packed for market, with Kentish Cobs in fine form. Mr. J. Durling, Ightham, was second with the same variety.

Tomatoes had one class devoted to them, of which the particulars were for "a basket or box of about 12 lbs. capacity, suitably packed," for which the chief award was annexed by Mr. J. Gore, whose cross-handled basket was fine. The Frome Flower & Fruit Co., Frome, was a close second. This exhibit was very fine, and could not have been much, if any, behind the first prize basket. There were five exhibitors in the class.

NON-COMPETITIVE EXHIBITS.

Mr. T. S. Ware, Ltd., Tottenham, staged an extensive display of Cactus and Pompon Dahlias, also large baskets of double and single Begonias of excellent quality. Mr. John R. Box, Croydon, also had a collection of Begonia flowers cut from the open ground. Mr. E. Beckett, gardener to Lord Aldenham, Elstree, exhibited a very interesting collection of Ricinus varieties, which would prove instructive to those interested in sub-tropical bedding.

Messrs. J. Cheal & Sons, Crawley, contributed a large assortment of Apples tastefully arranged with foliage. The trees were excellent examples of what can be accomplished with young trees on the Paradise stock. The chief features were large mounds of Peasgood's Nonesuch, Loddington, Bismarck, Warner's King, Jubilee, and Lord Grosvenor. Pears and Plums were well represented (silver-gilt Knightian medal). Messrs. J. Peed & Sons, Norwood, arranged an imposing exhibit of Apples and Pears, festooned with Vines and bunches of Grapes. The Apples were excellent, especially the Peasgood's Nonesuch, Mère de Ménage, Bismarck, Tyler's Kernel, Cox's Orange Pippin, and Chelmsford Wonder. The most conspicuous Pears were Flemish Beauty, Durondeau, Pitmaston Duchess, and Williams' Bon Chrétien (silver Knightian medal). Messrs. S. Spooner & Sons, Hounslow, exhibited a comprehensive display of Apples. The fruits were very clean and well grown; Stirling Castle, Royal Jubilee, Worcester Pearmain, Alfriston, Potts' Seedling, and Bismarck were particularly good (silver Banksian medal).

The Horticultural College, Swanley, exhibited an interesting display of bottled fruits, which looked very tempting, the whole being surrounded with good dishes of Apples, Pears, and Plums (silver Banksian medal). Mr. W. Horne, Cliffe, Rochester, exhibited Apples and Plums. The former were well represented by Stone's, Lord Suffield, Warner's King, Grenadier, Ecklinville, and Cox's Orange Pippin. The Monarch and Yellow Magnum Bonum Plums were very good (bronze Banksian medal). Mr. R. C. Notcutt, Ipswich, staged some good Apples. The chief feature was a dozen dishes of Bramley's Seedling, which weighed 60 lbs. Other noteworthy examples were Alfriston, Royal Jubilee, Peasgood's Nonesuch, Lord Derby, and Cellini (silver Banksian medal).

Messrs. J. Veitch & Sons, Ltd., exhibited Pears and Figs in pots, together with an extensive collection of Apples and Pears, about a hundred dishes of each. The best Pears were Marguerite Marillat, Souvenir du Congrès, Doyenné Boussoch, Beurré Fouquieray, and Pitmaston Duchess. The Apples were clean and well grown beautiful examples of Beauty of Stoke, Fraise d'Hoffinger, Tyler's Kernel, Cox's Orange Pippin, Peasgood's Nonesuch, Lord Derby, Bramley's Seedling, T. A. Knight, and Sir J. Banks; also examples of the Strawberry St. Joseph and the Parsley-leaved Blackberry, together with a good collection of Gourds (Hogg Memorial medal).

Messrs. Gaymer & Sons, Attleborough, Norfolk, exhibited a collection of Apples and bottles of cider. Messrs. Sutton & Sons, Reading, staged an exhibit of Tomatoes in pots and baskets. The best were Sutton's Maincrop, Best of All, Princess of Wales, Sutton's A1, and Perfection (silver Knightian medal). Messrs. H. Cannell & Sons, Swanley, brightened a corner with one of their well-known groups of Cannas. Messrs. W. Cutbush & Son, Highgate, displayed a well arranged exhibit of fruit, comprising excellent dishes of Apples, Plums, Pears, and Tomatoes, also an extensive display of autumn flowering plants (silver Banksian medal).

Messrs. Paul & Son, Cheshunt, exhibited autumn Roses in fine form. Caroline Testout, Bacchus, La France, Marie Van Houtte, Maman Cochet, L'Idéal, and Mad. A. Chatenay were very noteworthy in a large collection. Messrs. Fisher, Son, and Sibray, Ltd., Sheffield, staged a comprehensive display of Apples, which were somewhat lacking in colour. Messrs. J. Laing & Sons, Forest Hill, had a large display of fruit, comprised chiefly of Apples, Pears, Peaches, and Plums. The chief features were baskets and mounds of Bismarck, Peasgood's, Emperor Alexander, and Cox's Orange Pippin. Pears were Dr. Jules Guyot, Duchesse d'Angoulême, Beurré d'Anjou, General Todleben, and Beurré Bachelier (silver Knightian medal). The same firm also had hardy flowers and Streptocarpus; also a collection of foliage plants, comprising Acers, Dracenas, Araucarias, Bamboos, and Aralias. Messrs. W. Wood and Sons, Wood Green, exhibited a host of horticultural sundries, comprising almost everything required by gardeners. Mr. John Pinches, 27, Oxenden Street, S.W., showed his specialities in labels and suspenders for plants.

Mr. John Russell, Richmond, exhibited a collection of Ivies in all stages of development, and the stand was very interesting. Mr. B. Wells, Crawley, exhibited a collection of Apples, chief amongst which were Bismarck, Worcester Pearmain, Lord Suffield, Peasgood's Nonesuch, and Frogmore Prolific. Mr. Will Tayler, Hampton, exhibited a collection of Apples and Pears. The specimens were remarkably clean (bronze Banksian medal). The Dowager Lady Williams Wynne exhibited a collection of Apples and Pears from cordon trees (silver Banksian medal).

Messrs. T. Rivers & Son, Sawbridgeworth, staged a collection of fruit, which was remarkable for quality. Apples were represented by splendid examples of Peasgood's Nonesuch, Worcester Pearmain, Ribston Pippin, Emperor Alexander, and Cox's Orange Pippin (grand). The Pears were Beurré Hardy, Parrot, Louise Bonne de Jersey, Pitmaston Duchess, and Beurré Superfin. Monarch, Admiral Decaisne, Pond's Seedling, Jefferson, Grand Duke, President, and Golden Transparent represented the Plums, while Peaches and Grapes were also well represented (Hogg Memorial medal).

THE JUDGES.

The magnitude of the show necessitated a large number of judges, and thirty-five in all were appointed. They were Messrs. W. Bates, J. Basham, H. Becker, Brooks, C. Blick, E. Beckett, W. Camp, J. Cheal, W. Crump, A. Dean, W. H. Divers, M. Gleeson, C. Herrin, J. Hollingworth, J. Hudson, W. King, P. Kay, J. McIndoe, H. Markham, G. T. Miles, G. Norman, R. Parker, W. Poupert, A. H. Pearson, W. Pope, Rider, G. Reynolds, C. J. Salter, J. Smith, Tillman, T. Turton, J. Walker, G. Woodward, J. Wright, and A. Ward. The five referees were Messrs. A. F. Barron, G. Bunyard, P. Crowley, G. Wythes, and H. Balderson.



WEATHER IN LONDON.—Though we have not had much rain or frost in the metropolis during the past seven days, but the cooler nights and mornings, with the falling leaves, proclaim the advent of autumn. It has not been really cold, as the sun at midday still has considerable power. On Saturday, Sunday, and Monday mornings there were thick fogs in South London, but Tuesday was clearer. Towards evening of the latter day the wind gained strength, but though a few drops of rain fell there had not been any to speak of up till midday Wednesday.

— ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Floral meeting of the Royal Horticultural Society will be held on Tuesday, October 11th, in the Drill Hall, James Street, Westminster, 1 to 5 P.M. A lecture on "Some of the Plants Exhibited" will be given by the Rev. Prof. Geo. Henslow, M.A., at three o'clock.

— THE COLOURATION OF APPLES.—Up to about September 22nd my Apples, of which I have a good crop, were singularly deficient in colour, in spite of the abundance of sun. After that date the sunny hot days continued, but with very cold nights, often below 40°, and once an actual frost. Immediately a wonderful change came over the Apples; the red flush came into their cheeks with unusual rapidity, and now they are quite as well, if not better coloured than usual. Has anyone ever noticed that cold nights have added to the colour of Apples? —W. R. RAILLEM.

— POTATOES IN THE MIDLANDS.—In gardens south of the Thames most of the maincrop Potatoes have been lifted and stored several weeks ago. The protracted drought has doubtless hastened the ripening of the tubers, and with the exception of those in the fields Potato digging was finished early in September. A recent visit to the Midland counties revealed a different state of affairs. There at the end of September many of the tops of maincrop sorts were still green, and digging in the gardens had barely commenced. Almost everywhere there were traces of disease in the haulm, and in some cases the attacks were very bad. Tubers are, however, plentiful and even in size. Heavy rains would doubtless cause the disease to spread at the roots, which renders it advisable to push along the lifting as opportunity occurs.—G.

— THE PLAGUE OF WASPS.—This summer appears to have been rich in all sorts of pests, and in some districts wasps have been a perfect worry. In Kent they have not been nearly so troublesome as in some seasons, but in the Midlands the wasp plague has been a nuisance. In many gardens fruit had to be picked before it was properly ripe, or the gathering would have been only a small affair. The pests have played havoc among the Plums and early Apples, and in vineries Grapes have suffered through the rapacity of the marauders. Householders have been equally disturbed, and a continual battle has had to be waged against numbers of wasps that threatened to take sole possession of the habitations. Many means are adopted for their destruction, but the simplest, and at the same time most effective, is that of going to the root of the evil by making diligent search for the nests in the daytime, marking the positions, and then in the evening apply a serving of gas tar, which is certain destruction to the colony.—H.

— A DRY SEPTEMBER.—No one will be surprised to learn that over the United Kingdom, as a whole, September was an exceedingly dry month. Even at many stations in the west and north, where rains were far more frequent than in the south, the total amount for the month was less than half the average. In the eastern and southern counties the proportion was much smaller. In London, where the total amount was only 0.31 inch, the rainfall was exactly one-seventh of the average, and at Oxford very little more. At Yarmouth there was about a fifteenth of the normal quantity, and at Shields about a seventeenth. So far as the records at present show, the driest station of all was Cambridge, the only rainfall at this station being one-hundredth of an inch on the 18th. The average rainfall in September at this place is 2.13 inches, or pretty much the same as in London. An examination of records going back to the year 1866 shows that over nearly the whole of our eastern, midland, and southern counties, last September proved the driest of the whole series. In Ireland and Scotland the deficiency of rain last month was far less serious than in England, and at many stations in the extreme north and north-western parts of the kingdom there was actually an excess.

— SEPTEMBER WEATHER AT DRIFFIELD.—Mean temperature 59.22° (corrected). Wet bulb, 55.65°. Mean maximum, 67.19°; mean minimum, 48.21°. Highest, 84.5° on the 17th; lowest, 30.5 on the 29th. Mean of maxima and minima, 57.70°. Mean radiation temperature on the grass, 43.86°; lowest, 26.5° on 29th. Rainfall, 0.33 inch. Number of rainy days, five. Greatest amount on one day, 0.155 on the 9th. Mean amount of cloud at 9 A.M. (estimated), 5.9.—W. E. LOVEL, *Observer, York Road, Driffield.*

— OUTDOOR TOMATOES.—The tropical sunshine experienced during September has been suitable for this crop, with the result that Tomatoes have ripened well outdoors, particularly so in the south of England. Outdoor cultivation of the Tomato is always uncertain, and at one period this year prospects were anything but good. Cold weather after the plants were put out retarded progress, and growth was slow and weakly. Warm sunshine brought about the desired change, and the glorious September has been just what the crop required. Some Kentish fruit growers are making experiments with outdoor Tomatoes as a profitable crop, and the result in several instances I know has been encouraging. Earliest of All and Conference are favourite varieties for the purpose, and after the all-important weather, the incentives to success are a warm sunny position and strong well-established plants to begin with.—G.

— WEATHER AND CROPS IN GUERNSEY.—In reviewing the history of our fruit crop in Guernsey for the present season, I may say growers, with some few exceptions, have had a fairly good time, and, though prices for Tomatoes have ruled somewhat low since the end of July, yet, on the whole, have kept a fair average. The long spell of grand weather has vastly improved the quality of the late Grapes, and there are now to be seen some fine houses of Black Alicante and Gros Colman, which deserve to realise something better than the present meagre average of 7d. to 8d. per lb. Tomatoes have varied considerably in quality, the abnormal heat having induced premature ripening. The midseason Melon crop has been a fairly good and profitable one, as, owing to the long run of fine dry weather, very little artificial heat has been needed to grow them. Rain is badly needed for the Broccoli plants, a good many of which I notice are beginning to bolt for lack of moisture. Late Potatoes are coming out well, though on the more retentive soils the ground has become too hard for digging. All root crops are good.—X.

— LEONOTIS DUBIA.—In January of the present year seeds of this were sent to Kew by Mr. Mahon, from British Central Africa, and one of the plants which were raised is now flowering freely in the Mexican house. It is a herbaceous plant which, in the case of the Kew specimen, grows to a height of 8 feet, and branches freely, forming a bush 4 to 5 feet through. The leaves are thin in texture, and resemble somewhat, in size and shape, those of the common Nettle. The flowers are 1½ inch long, somewhat pendulous, orange coloured, and covered with a large quantity of silky hairs the same colour as the corolla. They are produced thickly in umbels, which surround the stem, usually, from alternate nodes, on the upper portions of each branch. Each umbel contains about 100 flowers which, when fully expanded, form an orange ball 3½ to 4 inches in diameter. It grows well in a soil of loamy nature. Frequent stoppings are necessary during the first three months from the seedling state, or the young plants soon become "leggy." For variety a few plants of this would be found acceptable during autumn in a warm greenhouse, its method of flowering, and the peculiar hairy corollas, making it a conspicuous object among other plants.—W. D.

— BIRMINGHAM GARDENERS' ASSOCIATION.—The initiatory meeting of the autumn series was on the 26th ult., when Mr. John Childs, Acock's Green, a locally well known amateur florist, read a paper on the cultivation and varieties of the Dahlia. Mr. W. B. Latham, Curator of the Botanic Garden, Edgbaston, occupied the chair. The essayist brought a collection of the Cactus forms to illustrate the subject, and which were supplemented by collections sent by Messrs. Perkins & Son, Coventry; Pope, King's Norton; and C. R. Bick, gardener to Walter Chamberlain, Esq., Harborne Hall, Harborne. An interesting collection of Michaelmas Daisies, consisting of twenty-five varieties, was contributed by Mr. W. B. Childs, Acock's Green. There were also several other miscellaneous exhibits, amongst which was a large bunch of the Parsley-leaved Bramble (*Rubus coronarius laciniatus*) from Mr. W. Gardiner, Harborne; also a small bunch of the St. Joseph Strawberry by Mr. John Pope, to show its fruiting precocity from "runner" plants of the current year's production. Mr. Geo. H. Thompson, Walsall, brought a medium sized and well flowered plant of *Odontoglossum grande*, and to which was unanimously awarded a certificate of merit. An interesting discussion amongst several of the members took place on the subjects exhibited.

CARPENTERIA CALIFORNICA.

WE can authoritatively inform "G. R." that *Carpenteria californica* is not of recent introduction, though we cannot say that it is commonly seen. This may account for his not having noticed it in any of his previous situations. We can best answer his question as to its appearance by the reproduction of an excellent engraving (fig. 47) and a brief descriptive note. It ranks among the most beautiful of hardy shrubs, and

OUTDOOR FIG CULTURE.

(Continued from page 242.)

PRUNING.

THIS is not much required, except to keep the branches thinned, and most of that should be attended to in summer, so as to leave only the shoots required for bearing. Too much pruning usually results in an increase of soft, unproductive wood, especially when the roots



FIG 47.—CARPENTERIA CALIFORNICA.

when in bloom in early summer produces a very fine effect. As depicted in the engraving the flowers are large, pure white, and have yellow stamens, which enhance their appearance considerably. The blooms, moreover, are fragrant, and usually produced in bunches at the tips of the branches. This *Carpenteria* grows to a height of 8 or 10 feet, and appreciates the shelter of a wall, although it will thrive in almost any situation that is favourable to similar shrubs.

are in rich soil, for Fig trees only fail to produce fruit through immaturity of wood and cutting off the bearing branches, hence the adage, "A pruned Fig tree never bears." Yet the knife must be employed to keep the trees in form and within the assigned limits. Most success attends the pruning that is confined to the removal of exhausted and useless branches, and providing a succession of bearing shoots throughout the trees. New growths should be encouraged from parts near the stem, where they are required to replace any that

become bare or exceed their limits. A portion of the growths may be pinched to form so-called spurs, but only where there is not room for extension.

WINTER PRUNING.—This ought to be performed as soon after the fall of the leaf as possible. Better practice is to cut out all the wood not wanted after the fruit is gathered, and so give the growths left the benefit of the autumn sun. The wounds then made soon heal, and branches of almost any age may be removed at any part, and young shoots will be produced quite freely. Suckers proceed in large quantities from the roots of permanent trees; these must be suppressed, and successional wood obtained from healthy branches. The suckers, however, are sometimes left about a foot apart, and these form the many stemmed trees often met with in gardens, and for the most part producing nothing but leaves. In winter pruning the bearing shoots are left from 12 to 15 inches distance apart.

SUMMER PRUNING.—The leaves of Fig trees are large, and this necessitates keeping the branches and shoots sufficiently far apart for every leaf to have a fair share of light. An early disbudding of all superfluous shoots saves endless trouble, as many more push in spring than can be allowed sufficient space to develop, and as there is a difference in the shoots select those that are short jointed for laying in, always reserving growths for filling blank places. Commence this disbudding when the shoots are about 3 inches long, and pursue it at intervals up to about the middle of August, when the main branches and side shoots will, if the work has been properly performed, have every one of their leaves exposed to the sun. Fig buds will then form in the axils of the leaves, and the wood have a chance to become matured. Sometimes there is not room for a long shoot to be laid in at full length, but space for a so-called spur or short shoot obtained by stopping at about the sixth leaf. These are extremely useful for originating successional growths at a future time, yet no more should be encouraged than can receive the direct rays of the sun.

Such is the extension system that I have mostly seen and practised. It answers admirably when the roots are in firm soil and the rooting area is limited. But there exists a different mode—the pinching method. It may be well to note that a grower having a difficulty in getting the trees to retain the first and only crop possible outdoors did wonders by pinching the shoots at the fifth or sixth leaf, rubbing off all superfluous growths, and when the shoots broke again followed out the disbudding on both the last and current year's wood, retaining only the required growths. This certainly helped the Figs, so much so that the trees bore heavy crops instead of only a few fruits here and there. In a growing year the points of the once-pinched shoots were again stopped in August, this taking place from the middle to the end of the month, which certainly promoted the ripening of the fruit and the maturing of the growth to the tip.

That is one side of the question, for I have seen another grower practise in that way and have nothing but waste and watery spray for his pains. Exuberance clearly cannot always be restrained by pinching, so that system depends upon reciprocity of action between roots and branches for success. It is not possible to force a barren Fig tree into fertility by mere top manipulation, and the success of the pinching alluded to simply implies the art of cultivation directed to the concentration of energy by the tree on the fruit and facilitating of the ripening of the wood process by restricting late growth. Indeed, it is a case analogous with that of stopping Vines to concentrate the energies on the Grapes, and pinching the laterals in order to secure plump pruning buds. In neither case will the pinching produce the desired result unless the trees are in good condition at the roots, to which attention must be directed when necessary to repress excessive vigour and induce fruitfulness.

Root-pruning should be done as soon as the leaves commence falling or before. The trees ought to be taken up, the roots shortened, and then replanted. This is vague to the inexperienced, but the experienced cultivator, seeing the condition of the roots, is enabled to act according to the need, some trees requiring much root-pruning, others little. As a rule the roots of unfruitful trees should be cut off at a distance of about one-third from the stem the branches cover of wall space, taking out a trench as deeply as the roots. Then some of the soil may be removed from amongst the roots towards the stem, shortening the strong about one-third, the medium one-fourth, and the small left entire, but paring the ends smoothly where jagged at the trench. Supply fresh soil or the old mixed with calcareous matter, and make quite firm over the roots and in the trench. The operation in the case of rich soils may need repeating occasionally, a trench being taken out just outside the first one, which, without root-pruning, will generally suffice to check exuberance and unfruitfulness.

Straight-down roots seldom give trouble unless the soil rests on an unfavourable subsoil. On a wall of 10 feet height some Fig trees under such conditions gave abundant growth, not fruit. A trench was taken out 3 feet from and parallel with the wall, and cross trenches made 3 feet on each side of each tree. From the trench the soil was taken out under the tree, first 18 inches from each end to the wall 2 feet

from the surface of the soil, and 1 foot in depth, and in place of the soil brick and old mortar put in and rammed, afterwards serving the central part the same way. It was a sort of underpinning, such as practised by builders on bad foundation walls, the trench being filled with part of the old soil mixed with about an equal proportion of brick and mortar rubbish. The Fig trees bore well afterwards, though they were simply suckers that had sprung from the roots, the branches being renewed from time to time. This and the preceding will give some idea to the uninitiated as to what rampant growing trees require to render them fruitful. Such treatment causes the production of short, stubby, fruitful wood.—G. ABBEY.

(To be concluded.)



CHRYSANTHEMUM RUST.

THERE seems to be little doubt but that this subject will engage the attention of growers very seriously during the present season. At the meeting of the Executive Committee of the N.C.S., on the 26th ult., Mr. P. Waterer, in giving his experience of the matter, said that he considered the rust had taken a permanent hold, and would require a great deal of energy on the part of those concerned to eradicate it, and he was strongly of opinion that the Committee should take the matter in hand. In this view the Committee concurred, and very wisely so, for surely growers of the popular flower are justified in looking to the leading society to do what it can in all such matters of difficulty, whether for the benefit of members or not. Mr. Waterer's experience will be embodied in a paper to be read at the Conference, but it may be useful to give, briefly, a few of his remarks at the committee meeting.

A fortnight previously, he told us, there was not a sign of the disease on his plants, but upon a subsequent examination he discovered many of them were infected. Lime and sulphur were applied, and then a week later he found not a single plant had escaped, with the exception, perhaps, of the Davis and Carnot families. In every instance the rust seemed to originate in the texture of the leaf.

Whatever may have been the cause, Mr. Waterer repudiated the suggestion that his plants had been overwatered or neglected. The disease did not appear more on weak plants than on strong ones, nor was it to be found more on new varieties than on old. Old stools planted out for the purposes of supplying cuttings seem to have escaped, as also did the early flowering varieties. No doubt this and much more information will be elaborated in the paper Mr. Waterer will read at the Conference, and it is to be hoped that when the practical and the scientific aspects have been fully discussed, that some effective remedy will be forthcoming.

Curiously enough the French N.C.S., although a very young society, has already dealt with the subject of Chrysanthemum diseases, both of animal and vegetable origin. M. Chiffot, of the Lyons Faculty of Science, at the Orleans Conference last year, read a paper describing the whole series known to him, and this with illustrations explanatory of the text has been published under the auspices of that Society, first in its journal, and since then in a separate pamphlet.—C. H. P.

[We have received numbers of specimens of "rust" infested Chrysanthemums, and almost, if not entirely, in every instance the most luxuriant growths were the most seriously infested. We have published microscopical illustrations of the rust fungus on page 381 of our issue of October 21st, 1897, from Mr. G. Abbey, who has explained its history and working. The subject will be referred to again in the hope of assisting in the suppression of a great scourge. The secret of success in combating the insidious invader rests in timely preventive measures, as when once the fungus becomes deeply seated in the tissues of the leaves, it is practically beyond the reach of external applications. Sulphur and lime are of small avail in arresting its progress, as Mr. Waterer has shown, and up to the present time nothing has been discovered more effectual for preventing, and by prompt and widely exercised action, in subduing the enemy than Bordeaux mixture and sulphide of potassium (liver of sulphur). In some instances which have come to our notice, sulphate of potassium (which is useless for the purpose in view) has been supplied by chemists instead of the sulphide, and growers should be careful to obtain the genuine article.]

NATIONAL CHRYSANTHEMUM SOCIETY.

THE Executive Committee of the National Chrysanthemum Society, in view of the devastation being wrought among Chrysanthemum plants by the action of the Chrysanthemum rust, has arranged to hold a Conference in St. Stephen's Hall, Royal Aquarium, on the evening of Tuesday, October 11th next, at six o'clock, to which the members of the Society and all interested in the matter are invited. A paper will be read by Mr. P. Waterer, Vice-Chairman of the Committee, on "The Practical Aspects of the Chrysanthemum Rust;" and by Mr. G. Massee, Royal Gardens, Kew, on "The Scientific Aspect of the Chrysanthemum Rust," followed by discussion.

EARLY FLOWERING CHRYSANTHEMUMS.

THE generally small but profuse blooming early flowering Chrysanthemums are a welcome addition and preface to the Chrysanthemum season proper. Plants grown and flowered in the open ground give, during favourable seasons, a good return of attractive and brilliant coloured blooms. Many of the varieties commence very early to flower, but the majority do so in September and October. Large sprays of bloom can be obtained from those varieties which grow and branch freely, and there are a fair proportion which do so satisfactorily. As a rule the outdoor plants require little disbudding. Some of the earliest Japanese varieties may demand attention, especially if fine blooms are required; but the Pompons having smaller flowers, will usually develop large numbers of perfectly formed blooms.

The early flowering Chrysanthemums may also be successfully grown in pots throughout the season from cuttings propagated in spring, and with ordinary but regular cultural attention neat, bushy, floriferous specimens will result. If grown in pots not larger than 7 or 8 inches in diameter the plants become available for introducing into the conservatory or greenhouse, where they can be utilised for various decorative effects or for general cutting. In pots the chief requirement is strict attention to watering at all times, with occasional liberal supplies of liquid manure when the buds commence to form.

Another method of growing many of the compact habited varieties is to cultivate them in the open border all the summer, allowing the plants ample room. Do not plant them by any means within the impoverishing area of trees and shrubs, as under such conditions they cannot be expected to succeed. An open position is far more important than soil, as they usually succeed in ground which will grow vegetables without large supplies of manure. They may, therefore, have a fertile but not a rich rooting medium. Place out small and healthy plants in May 3 feet apart, keep the ground clear of weeds, and afford water in dry weather, but no more than is really necessary. Unlimited growth is not required, but a sturdy, bushy habit, the foundation of which may be laid by judiciously pinching the strongest growths early in the season, and equalising later shoots which grow beyond bounds in the course of the season. Support can be given to those requiring it by a few sticks and ties. This will be necessary in windy positions.

In autumn lift the clumps and pot, choosing those varieties which appear to be the most suitable by reason of their dwarf, bushy habit, and their liberal display of buds. Those which are most advanced and ready to open should be lifted first. Any past their best condition must remain in the ground, likewise all that are not advanced in bud. Previously to lifting moisten the roots well with water, and it is also advisable to check the root action by running a spade round the plants about a week before lifting. In doing this the ball of roots should be left approximately to the size of pot intended. The pots ought to be as small as possible consistent with size of plant. Very little drainage will suffice to take away superfluous water. Lift the plants on a dull day. The method is to first lift out the plant with a large ball of roots and soil, then roughly trim with a sharp spade to the size required, finishing with a knife which makes smoother and better cuts.

Introduce the plants in the pots, and work them down in position by gently jarring the lower edge of the pot on firm wood or the ground. If carefully carried out fresh additions of soil to fill up interstices will scarcely be needed, but a little may be sprinkled on the surface. Stand the plants in the shade at once and water the roots freely, thus preventing excessive flagging. Syringe the plants frequently until well established, and maintain adequate root moisture. On the plants regaining an erect and healthy appearance supply a little weak liquid manure or soot water, and afford a light and sunny position preparatory to bringing them under glass, assigning them a cool airy house, where the flowers will readily open.

Commercial growers and others having suitable convenience under glass without interfering with permanent occupants may lift plants and place them in large boxes or closely together on a border, surrounding the roots with soil. Low span or lean-to houses only are suitable, plenty of light being needed. Keep the roots moist. Abundance of flowers may be cut from the free-flowering varieties.

Mad. C. Desgranges and its yellow sport G. Wernig are excellent varieties for pots and flowering in the open during late September and early October. These varieties are not so satisfactory when lifted and potted, though in some cases they do well.

Market White and Mychett White are good pure white varieties, well adapted for supplying cut flowers from early September to October, either planted out or in pots. The latter is the earlier, dwarf, and free flowering, reaching a height of 18 inches. Market White succeeds this by blooming at the end of September and later, but is much taller, yet comparatively dwarf to some—2½ feet is its normal height. Grow these varieties in various ways, the best, however, will be found to be in pots and the open.

Gustave Grunerwald is a light pink variety, 18 inches high, but there is a superior sport from it named Louis Lemaire, 18 inches high, of a rosy bronze colour. It is showy, blooms in September, and is good for garden decoration, but may be grown in pots.

Ambroise Thomas, a sturdy grower of 3 feet, is a profuse blooming early variety, commencing in September. The colour is bronzy red; flowers of Japanese form. Ivy Stark, 3½ feet, is of bushy habit, and commences to bloom in September, having orange yellow flowers, and is excellent for borders.

Notaire Groz is a variety with the Japanese form of bloom. It has rather a tall habit, being 4 feet in height, but is bushy, and at its best in October.

Madame Marie Masse is one of the best in its colour, lilac mauve. It grows 2 feet high, and blooms well in September in most seasons, though it frequently commences in August and extends to October. Good for pots, open ground, and lifting.

May Manser is one of the newly introduced varieties belonging to the reflexed section. It has white flowers with yellow centre. It may prove to be an acquisition if its habit is good and it has free-flowering qualities. It blooms in September, grows 4 feet, and is a Japanese variety.

Good varieties for any method of culture are Flora and Fiberta, yellow; Comtesse Foucher de Cariel, orange bronze; Mrs. Cullingford, white; Piercy's Seedling, orange yellow; Pride of the Market, deep crimson; Queen of the Earlies, white; and Arthur Crepey, primrose. The semi-early varieties are worthy of a few remarks, which I will endeavour to give in a future issue.—E. D. S.

BULBS AND THEIR CULTURE.

(Continued from page 250.)

GOOD VARIETIES FOR EARLY FORCING.

ALTHOUGH the main supplies of bulbs are not required in flower till the bulk of Chrysanthemums are over, it is necessary to have a regular succession for supplying choice flowers from the middle of November onwards. White Roman Hyacinths have long been considered some of the best bulbs to grow for early forcing; they are still as popular as ever, and are, perhaps, forced in larger numbers than any other bulbous plant. This popularity is doubtless largely accounted for by reason of the adaptability of the flowers for all kinds of "making up;" in forming wreaths, bouquets, button-holes, as well as in dressing small vases, few flowers are so useful as good spikes of Roman Hyacinths. Their good points, however, do not end here, for they are quite as useful for supplying attractive potfuls of flowers as for use in a cut state. When good bulbs are obtained, and cultural details well carried out, no plant—whether bulbous or otherwise—can be forced with greater certainty.

Bearing these things in mind it is well for those who force large quantities of bulbs to make white "Romans" their sheet anchor. The blue and rose-coloured forms did not meet with much favour when first introduced, as the flowers failed to open well when subjected to sharp forcing. This was probably caused by too rapid propagation, a fault which many new things exhibit the first season. A better sample of bulbs can, however, now be obtained, and I look forward to seeing these varieties of Roman Hyacinths become popular in the near future, as they supply flowers of colour not plentiful during November and December.

The Paper White Narcissus, and its improved form grandiflorus, are not forced so extensively as formerly, because our markets are flooded during autumn and early winter with cut blooms from the Continent, and when they are sold so cheaply in the streets they become too common to pay for forcing extensively, although the flowers forced in this country have a more delicious scent, and on that account should be included among the list of bulbs forced in all private gardens. The white double Roman Narcissus is one of the best of forcers, and may be had in flower very early; for these reasons it is a good plan to pot a few early bulbs, in fact all that are obtained should be forced, as by the time the showier varieties are in flower the taste for double Romans is on the wane.

Turning to Tulips it is satisfactory to find that we may now obtain many good varieties which will bear forcing well, and amply reward the cultivator for the little labour bestowed upon them, and those who require a really showy display of early bulbs for a moderate outlay should invest principally in Tulips. Undoubtedly the best scarlet Tulip for early forcing is Duc Van Thol scarlet. The colour

of the flowers is bright and attractive, and if good bulbs are obtained and potted early it may be had in flower by the end of November. A good companion for it is the white variety of that type. This is at present rather dear, but as the stock becomes more plentiful and lower prices prevail it will, I think, become the leading white Tulip for early forcing.

In this section other desirable varieties are gold-tipped, yellow, and rose Duc Van Thols. Proserpine is another excellent rose coloured variety which forces extremely well. There is always a great demand for early white Tulips, and many are on the look-out to discover the best variety to grow for the purpose. As I have previously stated, Duc Van Thol white is fine, but at present too expensive. Other varieties much grown are L'Immacula and La Reine; the former is inclined to go blind if pushed on rapidly, and the latter is not really a white, but a rose-shaded Tulip which when forced early comes fairly white; thus both have their faults. White Swan is the best variety I have yet tried. It is seldom that any of the flowers go blind if properly treated; the colour is pure, and the price satisfactory. To all, therefore, who require a really good white for forcing I commend White Swan.

Chrysolora is a pure yellow which is very hard to beat; it is forced by the million for supplying our markets. Canary Bird is very bright in colour, compact, well shaped, and forces well, but is at present somewhat expensive. Among striped single Tulips Bride of Haarlem (white and red), Alida Maria (cherry red, white striped), Cour de France (brown and yellow striped), Samson (red and yellow striped), and White and Red Bordered, are some of the best. The gems among early double Tulips are Duc Van Thol, scarlet and red and yellow; La Candeur, white; Salvator Rosa; Tournesol, yellow, orange shaded; Duke of York, Velvet Gem, and Gloria Solis.

Many of the showiest varieties of Narcissus will not force well, but we have at least four which will bear forcing, provided they are well rooted before being placed in heat. These are Sir Watkin, poeticus ornatus, Van Zion, and Horsefieldi. The first named I have had in flower in December. A few potfuls were placed in the forcing house to see how it behaved, and not a bud went blind. Since that time I have always potted a considerable number of this "king" among Narcissus for early forcing; Horsefieldi may also be obtained in flower during December, but the proper season for ornatus and Van Zion is about the first week in January. If pushed on too rapidly many buds are often lost. Excellent remarks on useful bulbs for general purposes appeared on page 230, so I will not enter into that matter here.—H. D.

(To be continued.)

LATE AUTUMN FLOWERS.

ERE autumn's golden hours depart and winter's dull, cheerless days, arrive, let us go afield and see what delights can be found in gardens less devoted to perennial flowers than ours. If these are the mistresses of our heart we need not therefore despise and slight the charms of others' favourites. We shall thus this bright September day pass through the reaped and cleared harvest fields on a short pilgrimage to a garden familiar because of old acquaintance, yet giving every year some new feature, some fresh pleasure in flower or plant. Since the writer first knew it many have been the changes. Years ago flowers were little grown, and vegetables and fruit were the specialities—nay, almost the sole produce of this garden.

Where once homely vegetables and pleasant fruits monopolised the soil flowers have found their way, and now occupy more than a lion's share. Where once a two-light frame comprised the "glass" modern houses have arisen in which Grape and Tomato keep up the old traditions of the place, while Begonias, Pelargoniums, Palms, Coleuses, and many other flowers and plants tell of the new régime. First we pass the garden front, where long ago bare turf reigned supreme. Now we see with pleasure tall Kniphofias shining brilliantly among the Michaelmas Daisies, Aconitums, Phloxes, and perennial Marguerites in the beds, while beds of China Roses, bright now, will in a week or two be brighter still. Heaths, too, look lively, and behind them other Phloxes yet show their usefulness for autumn bloom.

From the house to the walled garden we pass along a spacious drive. By the way are beds of modern Roses whose second blooms are late this year, but which show token of fine flowers should dry, bright weather prevail. About the centre of the drive the trees open into a wide circle where, as throughout the grounds, Rhododendrons flourish, and in their time are bright with bloom.

As we proceed we come in sight of the Solway beating on the shelving rocks which margin the sandy shore, and a turn to the right leads us to the walled garden, seeing ere we enter more Rhododendrons, great bushes of Veronicas, and huge plants of Rugosa Roses. Through the gateway we go, and are gazing down a long, broad path, which leads to another gateway to the shore. For a number of years the great feature of this walk was the lines of Begonias which in autumn,

backed by Dahlias, were gay in the extreme. Last season and this other plants have been tried, but next year it is intended that Begonias should be again grown, nothing else being so well adapted for what is required. This year there are panels of Iresines, Verbenas, Violas, Phlox Drummondii, and other summer flowers, edged with Alyssum maritimum variegatum. With the modern Begonias, such as are grown in the centre of the space formed by the walks converging from the side, a finer effect will again be produced.

Behind the dwarfier plants are rows of single Dahlia White Queen, alternating with two plants of the old but useful decorative Dahlia Glare of the Garden. This, the writer knows, has been grown here for many years, but shows no signs of deterioration. Trained to a wire trellis behind are still taller plants—Ricinus, Hollyhocks, Nicotianas, pyramids of Sweet Peas, Scarlet Runners, Cactus Dahlia Juarezi 9 feet high, and Cannabis, while here and there are Marrows, which are surprisingly effective. In the lower section of the walk Dahlias White Queen and Glare of the Garden are replaced by single varieties alone, among which were observed alba perfecta, the old Paragon, the dark Zulu, The Mikado, Excelsior, the fine Aurora; "M.C.C.," a good striped variety; Miss Zulema and Jack Sheppard, also striped; Sunningdale Yellow, a well coloured and formed flower; and the cream and white Miss Henshaw. Flanking the gateway at the lower end of the garden are two picturesque little round houses, up which grow Tropæolum speciosum, and beside are two remarkably fine Hydrangeas—hardy here, and full of bloom.

Retracing our steps we examine the rows of Cactus Dahlias at the top of the garden, and on either side of the gateway and elsewhere. The best white here is Miss Webster, but Mrs. Francis Fell is also good and purer in colour than the former. An ineffective Dahlia on the plant but good when cut is Mrs. Hill; very good also are Leonora, Mrs. Wilson Noble, Cycle, Miss Jane Basham, Mabel Keith, Valkyrie, Fusilier, Starfish, Charles Woodbridge, Mary Hillier, and a number of others. Backed by Tropæolums and Clematis Jackmanni on the wall, and with early Chrysanthemums and dwarfier flowers in front, they look very well indeed. Among the early Chrysanthemums were observed Mdle. Marie Masse, Le Poete des Chrysanthèmes, Harvest Home (especially fine), Edith Syrratt, and the good white Baroness G. C. de Brailles.

A quarter devoted to the useful Pompon Dahlias was brilliant in colouring. About thirty varieties are grown. Of these I noted the pretty little Zoar, which is, however, too dwarf for general use; Eric, Locket, Achilles; Mittie Wood, a good light yellow; Janet; Sovereign, another capital yellow; Boule d'Or, Brunette, and Iolanthe. Show and Fancy Dahlias are also grown, but in smaller quantity, although doing well and showing capital blooms, useful in helping with the quantity of cut flowers required. Annuals are now grown in smaller quantity than before, but are still found very valuable. Among the many in bloom one particularly noticed a good strain of Dianthus chinensis of much beauty in form and colour.

Herbaceous and bulbous plants are receiving more attention, and another season will show even better results than now. The bulk of these flowers are over, but a number of Phloxes of superior quality will be very telling another season. The dark flowered Sesostriis, with finely shaped large pips, was noted, with the pretty coloured pink Phlox Cameron, Montbretias Gerbe d'Or and Etoile de Feu—although not the newest of these useful flowers—are distinct enough, and when well grown, as here, well worthy of note. Anemone japonica alba is also a favourite here, while such good Michaelmas Daisies as Aster Coombe-Fishacre and A. puniceus pulcherrimus are included in the collection of these plants. Kämpfer's Irises have done well, and a large bed is to be planted with these splendid flowers in a moist border for another season.

A glance into frames showed a magnificent lot of the newest Zonal Pelargoniums for winter bloom, and an equally fine stock of Primula sinensis in named sorts looked remarkably well. A number of plants of the hybrid Streptocarpus occupied another frame. In one house fine Begonias of the best modern types were seen, and greenhouse flowers in variety were looking well all through.

One cannot but observe the remarkably heavy crop of fine Apples. Pears and Plums are a little short this season, but other fruits are up to the average, and a peep at the vinery shows the finest crop of Grapes ever produced in this house. These and the vegetables are, perhaps, outside the scope of this article, but no one can but feel pleasure at seeing the good culture of Mr. W. Howliston, the head gardener, so well repaid. Colonel Blackett takes the warmest interest in his estate in general, as all in the neighbourhood can tell, but it is to Mrs. Blackett that the garden is indebted for the progress it has made, and is making still. Occasionally the garden is open to residents in the neighbourhood, and on such days many visit it with deep enjoyment. Even the writer, long familiar with Arbigland, never fails to enjoy an hour or two on other days among such flowers as those of which he has spoken. Too soon will they be cut down, but their mission is unfulfilled if the tale of their brightness is not imprinted on our memories.—S. ARNOTT.

LIGUSTRUM WALKERI.

AT the meeting of the Royal Horticultural Society, held in the Drill Hall on the 20th ult., Messrs. Paul & Sons, Old Nurseries, Cheshunt, exhibited *Ligustrum Walkeri*, for which a first-class certificate was recommended by the Floral Committee. As may be seen from the wood-cut (fig. 48), the leafage is very handsome, and the plant should be very popular. It has been described as "a species newly introduced from Ceylon, where it grows at an altitude of 5000 feet. A fine shrub, preserving its magnificent foliage in winter. Its leaves are sessile, round, undulated at the edges, of a fine deep shiny green, resembling a Roman Myrtle, with which it may be advantageously compared. The white flowers are produced in large and long panicles. Its beautiful habit and its foliage suffice to make of this novelty an ornamental shrub of the first rank." Messrs. Paul & Son say, "We value it as likely to make a very pretty pyramid tub plant, like Bays or *Euonymus*, a probable window plant, and a useful evergreen for sea-coast and western districts." It is not hardy at Kew.

ISLE OF WIGHT.

ON Thursday evening last a few of the most enthusiastic horticulturists of West Cowes called a public meeting for the purpose of establishing a Horticultural Improvement Society. Their invitation was well responded to considering the inclemency of the weather, for there was a regular and steady downpour of rain during the afternoon and evening. The meeting was held in the Town Hall, under the chairmanship of Mr. S. Heaton, Horticultural Instructor for the county, in the unavoidable absence of Geo. Fellows, Esq., County Alderman.

Mr. Heaton gave an interesting address on the objects of such societies, the importance of instruction, and the progress of Island horticulture during the past five years. At the close of the address it was unanimously resolved, on the motion of Mr. R. Saunders, and seconded by Mr. John Hygate, "That it was desirable for the best interests of Cowes to form a horticultural society, and to encourage the development of window, town, cottage, and allotment gardening, as the commercial prosperity of the town depended to a large extent on visitors, who were most numerous during the yachting season."

Names of members were afterwards taken, and a committee elected, with Mr. T. Richardson, Chairman, and Messrs. A. Saunders and C. Creighton joint Secretaries. It was a most successful meeting, which augurs well for the future success of the newly formed Society.

ONION AND CELERY GROWING AND SHOWING IN THE NORTH.

IF any body of gardeners in the North of England were asked the question, What branch of gardening would you wish me to write about? the reply would be Onions and Celery growing, because at this moment in one of the towns within sight of Windermere Lake (Kendal) we are in the midst of the showing season, when, practically speaking, everything is left alone in the garden but Onions and Celery and occasionally Red Cabbage.

During last season over eighty exhibits of Onions alone were staged at different shows, and over 200 heads of Celery. This season promises to fully equal if not surpass the above numbers. One of the most remarkable features of these shows is that formerly they were invariably held in public houses, whereas now they are worked in connection with the Church temperance societies with one or two exceptions. Each exhibitor is allowed one entry for Celery and one each for Onions and Cabbage, for which he pays a total fee of 2s. 6d., this entitling him to two tickets for the tea and concert which follow the show, and there is no doubt the smiling and happy faces are an abundant reward to the committee and to the generous persons who contribute to the success of the show. The prizes consist entirely of articles of household furniture, copper kettles being special favourites. I know of one home where four of these articles adorn the side tables, and are proudly pointed to as family trophies.

At the Parish Church Show held on Saturday, September 24th, this being the largest in the town, fifty-one exhibits of Celery were staged in pairs. The exhibits generally were not very big, those of the first prizewinner, Mr. John Turnbull, measuring 10½ inches in circumference and 38 inches full length. Mr. George Hill was second, and Mr. Robert Halhead third. The specimens were all well grown and splendidly blanched. All the Celery is cut for judging.

The Onions, to my mind, formed the great feature of the show, and as one of the judges, I can truly say made the finest collection ever staged in Kendal—indeed, the task of placing them in their proper order of merit severely taxed both patience and ability. As a lover of Onion growing, I would like to say here that it only requires some enthusiast to offer a substantial prize (open to all the town), and thus draw all the exhibitors together to insure one of the finest collections of Onions ever seen in the North of England.

Twenty boxes of Onions were placed in competition for the six prizes, and, as in the Celery class, the first prize winner was Mr. Turnbull, with six splendid bulbs of Cranston's *Excelsior*, the largest measuring 14½ inches in

circumference, and good, solid, well finished specimens. Mr. John Humphrey was second, and Mr. Wm. Atkinson third, each with the same variety.

Twelve very fine trays of vegetables were staged, and the first prize winner, Mr. Robt. Halhead, deserves a word for his all-round excellence. I would like to mention some exceedingly fine Leeks shown by Mr. John Crossley. The variety was Dobbie's Large Flag, and they measured 7 inches in circumference, and 60 inches full length. Mr. John Turnbull was second with the same variety, and Mr. E. Hesmondalgh third.

Perhaps a little information as to the mode of culture with us will be interesting. In the first place, it is a well known fact the North country people do not like change, therefore it is very hard to persuade anyone to



FIG. 48.—LIGUSTRUM WALKERI.

make their Onion beds in the autumn. For one made then, nearly twenty are made in the spring, and until that is done, we shall never be able to beat our friend Bowerman with his 4-pounders.

There is no doubt that an ample supply of manure, both artificial and real, is used, and I would like to repeat in these pages what I have so often said at home, that the greatest mistake here in the growth of the Onion is the liquid manure poured on when the Onion is heading—indeed, almost to the show day do we find this done. Hence we have when staged many soft flabby bulbs.

Again, when planting out it is impossible almost to make Onion growers understand here that fine exhibition bulbs cannot be produced when planted 5 or 6 inches apart. Very seldom do we find them 12 or 14 inches apart, and what a disappointment when the first-class seed has been purchased and the plants carefully nurtured, and even then are not so fine as we would like them. It is a great mistake to imagine that quantity gives the greatest weight. I have myself this season a bed of Ailsa Craig, planted out over a foot apart, and it is the general opinion that a finer lot has not been seen in Kendal.

Now a word or two about Celery. Unlike Onions, the real work begins almost as soon as it is planted. It does not grow many weeks

before the kneeling process begins, and paper collars, changed about every other week, become the rage. Large quantities of liquid manure are poured into the trenches until about a week or two before the show, when the favoured plants are stripped down, chosen, and most carefully watched. When judged each head of Celery is cut, to find the best core, and judged accordingly.—CHAS. A. LEWTHWAITE, *Kendal*.

NOTES ON PINES.

PINE Apples are still grown in some places, and the fruits are much fresher in appearance and, we consider, superior in quality to imported fruit, hence a few notes may be appropriate.

The Pine Apple, like every other fruit, is most valuable when fruit is scarce and dear, hence plants showing fruit have most interest, and should be afforded the best positions in the fruiting department. Maintain a temperature of 70° at night, 75° by day, advancing by sun heat to 85° or 90°, closing at 85°, and sprinkling the plants on fine afternoons. Damp the paths when the surfaces become dry, but avoid too much atmospheric moisture, otherwise the crowns may be unduly enlarged. Keep the bottom heat steady at 85° to 90°. Examine the plants once a week for watering, and if any require a supply afford it copiously at about the same temperature as the bed, always using clear liquid manure. Care, however, must be taken not to overwater the fruiters, as that has a tendency to cause the fruit when cut to black at the centre.

The best varieties to fruit early are Queens and Enville, but there is not always a certainty of their starting into fruit when desired unless they are given a period of comparative rest after making good growth. Plants intended to show fruit early in the year should be kept in a temperature of about 65° in the daytime by artificial means, 60° at night, ventilating at 70°, closing at this degree of heat, and allowing the bottom heat to fall to that figure of the plunging thermometer. Water the plants only when necessary, but do not allow them to become so dry as to cause the foliage to become limp. This treatment causes the plants to thicken at their base in full exposure and close proximity to the glass without touching, and concentrate the forces on the formation of the embryonic fruits, so that after a couple of months or so they can be started with a certainty of the majority throwing up fruit, which will ripen in May and June of next year, if the plants are started in December or by the new year.

All young plants should now be arranged so as to obtain the fullest benefit of light and air. As the sun diminishes in power a corresponding diminution of temperature must take place at night, until it reaches the winter standard of 55° to 60° at night and 65° in the daytime. Ventilate freely whenever the external conditions are favourable, paying particular attention to watering. Examine the plants about once a week, and whenever one needs water give it copiously, at about the same temperature as the bed, always using liquid manure, quite clear; and to plants having a tendency of run to leaf add a pinch of salt to each 3 gallons of water, just as much as the thumb and two forefingers hold. It stiffens the plants wonderfully, but of course the plants must have plenty of room but be near the glass.—GROWER.

THE YOUNG GARDENERS' DOMAIN.

SCHUBERTIA GRANDIFLORA.

AMONGST the most useful stove climbers is *Schubertia grandiflora*. It flowers freely in clusters of five and six from the base of the leaves on the current season's growth, and continues from April till the end of August. It is similar in habit and flower to the *Stephanotis*, but the blooms are larger, have longer stems, and are not so easily bruised; they stand a long time when cut, and are very useful for wreath and bouquet making.

It is of easy culture, requiring a compost of light loam with a little leaf soil and decayed manure, also good drainage. It may be either planted out, or grown in a large pot and trained to the trellis on the back wall or roof. Abundance of space must be afforded, as the growths will easily reach from 15 to 20 feet during the summer. Cuttings may be propagated from firm side shoots with a little bottom heat.

As with *Stephanotis*, mealy bug seems very partial to it, and it requires careful brushing with an insecticide, as the leaves are easily broken. White fly is also troublesome, but can be kept down with the syringe.—A. C. W.

WINTER CUCUMBERS.

IN many gardens Cucumbers are in demand daily throughout the year, and easy as the culture of this plant is during the summer months, it is the reverse in the winter. A few notes on its culture may, therefore, be of use. The house for the production of winter Cucumbers should be well heated and tightly glazed, bottom heat being provided, and, if possible, it should lean to facing due south. For bearing in winter the plants can either be raised from seeds sown early in August, or by means of cuttings propagated later in the month. In the latter case, it may be noted, the plants come into bearing earlier, but at the same time they are more quickly spent than seedlings.

The seed should be sown singly in 3-inch pots, using an open compost. The pots are placed in a house where the temperature ranges about 70° by night, and as soon as germination has taken place they should be stood quite close the glass to prevent the plants being drawn. In the case of cuttings, propagate in the ordinary way, selecting strong shoots; plunge the pots in bottom heat, place a hand-glass over them, and keep close for

a few days to prevent flagging. When the pots in either case are full of roots place in 5-inch pots, and so grow the plants that they have a sturdy habit. These plants being ready, planting should be done. The beds for their reception ought to be 10 or 12 inches deep, above the drainage, the compost consisting of good loam, a little manure, with fine old mortar rubble added, the latter tending to keep the compost open, an important item in the growth of winter Cucumbers. Do not fill the whole space, but leave room for future top-dressings.

In planting, allow a distance of about 2 feet 6 inches between the plants, overcrowding being thus guarded against. Grow them well, admitting air on favourable occasions, as if grown too quickly or without air, instead of stout foliage and short-jointed wood, we have weakly things, that cannot battle with the dark winter months. When the growths have reached half-way up the wires, pinch to induce an even break. The laterals as they grow must also be regularly stopped, and so trained that overcrowding shall not take place. Endeavour to keep down spider by judiciously using the syringe, but not so much as to make the leaves flabby. By the middle of October the plants may be allowed to fruit, avoiding overcropping. A good show may look nice, but it is detrimental to the plant at this season.

The greatest difficulty will be found during the dull dark November and December days, and especial care must then be taken both with the syringe and in watering, as if practised unnecessarily failure is quickly evident. At that period the night temperature should range from 65° to 70°, the plants not being unduly excited by this. It may be mentioned, before coming into bearing, a top-dressing of good material is very beneficial to the plants, and when bearing occasional waterings of weak liquid manure aid the plants to carry their crops. On the turn of the season more moisture may be afforded the roots, the syringe more freely applied, a good top-dressing afforded the beds, and the Cucumbers should grow freely and produce fruit for a considerable time. In sharp weather cover the roof glass at night with some protecting material, as the leaves being quite close to the glass are easily disfigured.—SEMPER.



FRUIT FORCING.

Melons.—The end of the Melon season, as regards those grown in frames or pits heated by fermenting materials, is at hand, though fairly good fruit may be had up to November, especially of varieties that will keep some time. Any fruits approaching ripeness should be cut with a good portion of stem and placed in a house with a gentle warmth, where they will ripen, and be a welcome addition to the dessert.

From houses a supply of fruit will be kept up some time longer, the latest fruits only swelling now. Sufficient moisture will be secured to this crop by damping in the morning and again early in the afternoon, affording water to the roots moderately—a supply once a week will be sufficient in most cases. All superfluous shoots should be cut out and laterals kept closely pinched, so as to afford the principal foliage the benefit of the autumn sun. Plants with fruit approaching ripeness should be kept dry, and a brisk heat maintained with free ventilation, the temperature being kept at 65° at night, 70° to 75° by day, rising to 85° or 90° with sun, admitting air at the top of the house on all favourable occasions. The evaporation troughs should still be charged with liquid manure, continuing until the fruit gives indications of ripening.

Peaches and Nectarines.—*Early House*.—The trees are at rest, and very bright and promising in wood and buds. The latter are not too large, an indication that they have not been over-developed, but are perfect, and will retain their hold upon the trees. Through the roof-lights having been removed some time the borders have been thoroughly moistened, but in certain districts rain has not fallen, and watering had to be resorted to. The exposure invigorates the trees, and that, with thorough soil moisture and not over-development of the buds, is the best safeguard against the buds falling. The trees must be pruned, dressed with an insecticide, and the whole house thoroughly cleansed, the wood-work with carbolic or petroleum soap and water, the glass with clear water, and the walls with limewash. The trees can also be tied to the trellis, everything forwarded, so that a start may be made at the proper time. Let the lights remain off until the time of closing the house. If the lights are fixed the inside border must not lack moisture, and air should be given to the fullest possible extent, insuring thereby as complete rest as possible under the circumstances.

Second Early House.—The trees started early in the year have shed the foliage. Those that have made strong wood, which takes time to mature, more than the moderately vigorous, must not be exposed until the growths and foliage are well matured. It is an excellent plan to remove the roof-lights, as it invigorates the trees, insures perfect rest, and the rains and frosts do much to cleanse them from insects, especially brown scale, besides soaking the borders. When the foliage is all down the necessary pruning, dressing the trees with an insecticide, and cleaning the house should be proceeded with, removing the surface soil down to the roots, and adding fresh material, but not covering the roots deeper than 2 or 3 inches. In the case of fixed roof-lights watering may be necessary.

Under no circumstances must the trees be allowed to become dry at the roots, nor, on the other hand, be soddened by needless waterings.

Midseason Houses.—If the trees are in an unsatisfactory condition have recourse to lifting, the wood being firm and the foliage beginning to fall. It must be done with dispatch, all the materials being in readiness. Provide efficient drainage, shorten strong roots, and bring any that are deep nearer the surface, employing the compost moderately firm. Good loam, rather strong, with an admixture of one-sixth of old mortar rubbish will grow Peaches well. If the soil be light add a fourth of clay marl, dried and pounded, and if very heavy a similar quantity of road scrapings. If the soil is deficient of calcareous matter add a tenth of chalk. Unless very poor, avoid manure except at the surface. Give a good watering, and the roots will soon get established in the fresh compost. Trees judiciously treated at the roots whilst they have foliage, but not before the wood is ripe, seldom fail to set and stone the fruit satisfactorily. Borders that are sound in drainage, but the surface soil a soapy mass, and it is not possible to remove it, may have a good dressing of best chalk or land lime, not magnesian, about 2 lbs. per square yard, leaving it on the surface for a few weeks, then mixing it with the surface soil as deeply as the roots allow without much disturbance.

Late Houses.—October Peaches are as much valued as those of May. They are fine in appearance, and when properly supplied with moisture and nutriment during the growing season the fruit is juicy and well flavoured. Walburton Admirable is of excellent quality, also Sea Eagle, one of the best, large, showy, good flavoured, and free from the stringiness and mealiness too prevalent in some late Peaches. Comet and Golden Eagle are good juicy fruits. As the wood in many late houses, especially unheated, may not be too ripe, the house should be almost closed by day so as to secure a good heat, admitting sufficient heat to insure a circulation, increasing the ventilation at night, except when frost prevails. Any trees that make too gross wood should have a trench taken out as deep as the roots, and about one-third the distance from the stem the trees cover of trellis, and left open for a fortnight, then filled in again firmly.

Strawberries in Pots.—Where autumn and winter fruiters are grown the plants must be placed under glass and on shelves, so that they enjoy a free circulation of air, ventilating so as to dispel damp. The fruit swells better and the flavour is improved in a house with a moderate degree of heat, 50° to 55° as a minimum and 65° to 75° as a maximum by artificial means, in which they should have air on all favourable occasions.

Plants for Next Year's Fruiting.—Those intended for early forcing should be placed on a base impervious to worms, either in a warm sunny situation or in frames or cold pits, exposing them fully to every gleam of sun, employing the lights only to ward off heavy rains, and at night when frost prevails. Keep the remainder of the plants in a sunny position, but sheltered from cutting winds, as they will require every ray of light and sun's warmth to enable them to mature the crowns properly.

THE KITCHEN GARDEN.

Chicory.—Lettuce is scarce, and Endive in many gardens is very backward, so that there is all the greater need to take more pains with Chicory than usual. Where a row or rows of Chicory were sown and duly thinned out in the spring, roots varying in size from those of Salsafy to Intermediate Carrots ought now to be available for lifting. Lift a dozen or more at a time, according to the demands of the establishment, twist off the tops, and pack the roots with rich loamy soil, in deep pots or boxes. Place either in a Mushroom house or cellar, gentle heat and darkness being essential to the production of abundance of well balanced, tender, and slightly bitter leaves. Keep the soil steadily moist, and before the crop of leaves is exhausted more roots should be brought in.

Endive.—Only those who have kept their plants well supplied with moisture at the roots can point to a good supply of Endive. With late Lettuce a comparative failure, the attempt will be made in many instances to hasten forward Endive, but it should be remembered that half grown produce is neither fit for storing nor blanching. The centres ought to be well filled up before either process is attempted. If the weather remain dry, water with liquid manure, also protecting from frost. Some that are forward enough may be blanched for use. Late Endive may be carefully transplanted to shallow pits previously occupied by Melons, Cucumbers, or Tomatoes, where if properly protected they should continue to grow all through the winter.

Mushrooms.—The field supply will be late, and if heavy, yet of short duration. Unfortunately the dry hot weather has not been in favour of open air ridge-shaped beds, as these heated violently and dried quickly. Any that have been spawned for five weeks or more, and are too dry to produce Mushrooms, should have a gentle yet thorough soaking of tepid water, and be then heavily covered with strawy litter with a view to excluding frosty air and cold saturating rains. Fresh beds formed now and spawned directly the heat has declined to about 80°, may produce heavy crops of Mushrooms either in December onwards, or if the weather is too cold, and a sufficiently heavy covering of litter has not been afforded, they will probably do good service next spring. Those beds in Mushroom houses proper, outhouses, disused stables, and the like, should be treated similarly to the open air beds as far as the watering is concerned, these also requiring to be moderately heavy, covered with strawy litter. Beds in cellars do not dry so quickly; care must, therefore, be taken not to overwater these, and no covering of litter is needed. Beds formed now in these most suitable positions, as well as heated structures, and duly spawned, should produce Mushrooms during the winter, or when most wanted.

Protecting Vegetables.—Frost has already damaged Kidney Beans and Vegetable Marrows in low lying positions, but their career of use-

fulness might have been considerably lengthened if a light protection of some kind had been afforded. In many positions it may not be too late to protect these tender vegetables with mats, boards, frame lights and shutters, branches of trees, or other makeshift coverings whenever needed, a mild time frequently following upon a "sharp snap" in September or October. Late Globe Artichokes are not nearly so plentiful as they were last autumn, but where this vegetable is appreciated it might pay well to protect plants producing late heads, doing this with stakes and mats. Where possible breadths of late Kidney Beans should be protected with portable frames, glazed lights, and mats. Dwarf late Peas could be protected by benders, and either mats or blinds.

Storing Root Crops.—Beet is most susceptible of injury from frosts, and should be lifted and stored by the middle of October. Care must be taken to break as few roots as possible, damaged roots losing their colour when boiled. In dry weather a fork should be used for lifting the roots. The tops ought either to be twisted off or be shortened with a knife moderately hard, not cutting any of the root away. Pack the roots, crown outwards, in sand, ashes, or fine soil in a cool somewhat moist position. They will shrivel in a warm dry place. If stored in the open cover with straw and soil, if in a shed protect from severe frosts. Fully grown Carrots, or the early and main crops, may also be lifted, sorted over, and all the best roots trimmed and stored much as advised in the case of Beet. This crop is a poor one in many gardens, and all the more care must be taken of the late sown Carrots accordingly. These will continue to improve whenever the weather is mild, and roots drawn straight from the ground, when large enough to cook, are sweeter and tenderer than any older roots that have been lifted and stored. Onions, after they are well harvested, should be stored in a cool dry shed, roping or bunching them in wet weather, and suspending in a cool shed, where they will keep much longer than when stored in heaps. The Tripoli varieties are the worst and the late Globe type the best keepers. Jerusalem Artichokes, Parsnips, Salsafy, and Scorzonera keep best left where grown, but forward Turnips ought to be stored.

THE BEE-KEEPER.

UNITING BEES.

FROM various causes, but chiefly owing to the fine weather that has been general throughout the country, we find many bee-keepers have delayed the necessary operation of driving their bees. The art of driving and bumping bees to cause them to leave their hive having been explained in recent notes, it will now be only necessary to show how easily driven bees may be united to either weak or strong colonies, or in building up strong stocks with driven bees alone.

In the majority of apiaries in which there are numerous colonies, whether in straw skeps or frame hives, there will at this season be some that are much stronger than others. It is therefore advisable to make all of as equal strength as possible, as it is a well-known fact strong colonies will winter much better than weak ones.

At this date all hives should be crowded with bees, and if they have ample sealed stores nothing further will be required for the next five months if they are covered warmly and protected from the inclement weather that may be expected during that time. Those that have only five or six frames covered with bees are the stocks that require attention, either by adding driven bees or dividing one stock to strengthen several colonies. If the former it will be necessary to make the bees homeless for a short time. This is done by brushing the bees off the combs into an empty skep and mixing the driven bees with them. Bump the skep on the floor two or three times, then quickly shake them into the hive on the top of the frames from which the bees were previously brushed. A puff or two of smoke will drive them down into the hive; the quilt and covering may then be placed in position without the loss of a bee.

In carrying out this operation it is not necessary to sprinkle the bees with syrup, flour, or any other ingredient, as owing to the excitement caused by driving one stock, and brushing the bees from the combs of the other, they will not fight, as they certainly would under ordinary circumstances. Anyone may soon test this for themselves by placing some strange bees in a hive without taking some steps to make them all smell alike, as it is from the smell that the rightful owners of a hive can select strangers, and when found they will turn them out of the hive in an incredibly short time.

If the bees are all in frame hives, and the frames are interchangeable, which they always should be, it is a very simple matter uniting one with the other, but on totally different lines to the other.

In the first place it will be necessary to remove the queen from the stock intended to be divided, and in no instance should a frame with the adhering bees be given to another colony before this has been done. Commence by carefully examining each comb until the queen is found. With a little practice this is easily done if a fine day is chosen for the purpose. When found, the queen should be placed in a small box with half a dozen worker bees, and if kept supplied with a little honey daily, and put in a warm place, she may be kept for several

weeks, and may be useful if a stock is found queenless late in the autumn, when she may be introduced in the usual manner.

Remove the outside frames that are not covered with bees from the stock that is to receive the additional bees, then lift out each frame and the adhering bees, and sprinkle them with ordinary flour from a dredger. If the latter is not to hand a good substitute may be made from a tin with a few holes bored in the lid. The bees that are on the bottom or sides of the hive must also be sprinkled with flour. Returning to the stock deprived of their queen, treat the bees in like manner. As each frame is lifted out sprinkle them with flour, and place it alternately with those already in the hive. When sufficient frames and adhering bees have been added cover them warmly, and if short of stores feed with thick syrup or dark honey from a rapid feeder, and all will be well. We prefer flour to syrup for sprinkling bees, as it is clean, and does not excite them, and no robbing will take place. Sprinkling with syrup late in the autumn will often set the apiary in an uproar.—AN ENGLISH BEE-KEEPER.

FEEDING DRIVEN BEES—POSITION OF HIVES.

PLEASE tell me how to feed a stock of driven bees to be wintered in a straw skep; also say if I have put my bees in the right position according to the plan enclosed. They are all driven bees. I have never kept any before.—W. L. S.

[It is now too late in the season to place driven bees in an empty straw skep, though should the present fine weather continue the plan may be tried as an experiment. Place a piece of perforated zinc over the hole in the top of the skep, and use an ordinary honey bottle as a feeder, with a piece of muslin over the mouth, and invert over the cluster. The zinc will prevent the bees escaping when the bottle is again filled, and the syrup should be made according to previous instructions, and always given warm in the evening so as to prevent robbing. The feeder, too, must be covered warmly, otherwise the syrup will cool at a rapid rate. It would be a great advantage to place the driven bees on full sheets of foundation or fully drawn out combs; if on the latter, they may be supplied in a few days with sufficient stores to last them until next spring. Cannot "W. L. S." remove some spare combs from the frame hives he already possesses, and thus escape the risk of attempting to winter them in an empty skep? The hives as shown in sketch are in an admirable position if the wall and buildings do not shade them.]



*All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," **8, Rose Hill Road, Wandsworth, S.W.**, and **NOT** to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Contorted Chrysanthemum Growths (W. M.).—Your specimens require careful examination, which cannot be given for this issue. A reply will appear next week.

Lycaste (J. C. S.).—We cannot say without seeing the flowers what your Orchid is. If it is *Lycaste Skinneri alba* you are fortunate, as this is much more valuable than *L. aromatica*. *Lycaste aromatica* has no white about it, but is a small, highly scented, yellow flower. If you send a flower we will endeavour to name it for you.

Tomatoes with Hard and Green Parts (W. Bros.).—The good examples of fruit are affected by a sort of waxiness which occurs in various fruits when highly developed in galactose, instead of levulose, the dextrose granulating or candying. This we gather from an analytical chemist, who considers that more potash and nitrogen would have overcome the defect. Some varieties are naturally prone to the hollowiness, such as Chiswick Red. We have found the best preventive in a firm soil, and not too much of it, this inducing solidity, and though the fruit may appear smaller, it weighs quite as heavily. The plants also finish the fruit better. A firmer soil, less of it, and more potash, not kainit, but double sulphate of potash instead, would rectify the evil. Of that you have an instance of the plants in pots, these being fed right through, and thus finished satisfactorily.

R.H.S. Examinations (Argyll Reader).—If you write to the Secretary of the Royal Horticultural Society, 117, Victoria Street, Westminster, S.W., on the subject, he will send you a prospectus which contains the names of suitable books. In our experience very large and costly books are not the most serviceable, but those which treat different subjects clearly, plainly, and concisely. If you write to Messrs. Macmillan and Co., St. Martin's Street, London, S.W., for a list of their gardening books you will find some that may be of use to you, and can obtain several by a comparatively small outlay. As to "coaching" we are unable to answer your question. A gentleman used to advertise, but we do not know his fees. The principal of a great collegiate institution recently observed that by passing candidates as the result of coaching and cramming, the Royal Horticultural Society was giving the stamp of its authority to artificially made gardeners, who could not by any possibility, if placed in a garden, discharge the duties that gardeners thoroughly trained in the school of practice have to fulfil, and which hundreds discharge with signal success. As you have passed in agriculture you ought to have no difficulty in succeeding in the R.H.S. examination, as you must have obtained much essential knowledge from your employment in gardens, and we wish you success.

Small White Fly on Plants (J. C. S.).—The fly that infests the under sides of the leaves of *Fuchsia procumbens*, *Sibthorpias*, and others appears, from the description you give of it, to be what is commonly called "White fly," named *Aleyrodes vaporariorum*, and figured by Professor Westwood in 1856. The perfect insect or "fly" has milk-white wings, unspotted, and a pale yellow body. The females place their eggs in patches on the leaves, and the young on emerging scatter themselves over the leaves on the under side, which they pierce with their suckers and adhere closely. Each ultimately becomes covered with a white scale, and below this becomes a pupa. The whole metamorphosis occupies nearly four weeks. By feeding on the back of the leaves these turn yellow, wither, and die. The "fly" infests many plants in greenhouses and stoves, more especially Tomatoes and Cucumbers. It is rather difficult to destroy, as the "flies" fall to the soil or floor when the house is fumigated and receive relatively little injury, though some are "caught" by well wetting the surfaces just before fumigating. The larvæ, however, remain on the leaves, and hence repeated vapourisation with nicotine, or even fumigation with tobacco paper, destroys the pest. Syringing the plants on the under side of the leaves with nicotine essence, one part in a hundred parts water, or tobacco juice diluted about ten times with water, destroys the larvæ and perfect insects reached. The advertised insecticides may also be effectively used against the little creature. Where there is command of hot-water pipes these may be heated to 170° to 200°, and lightly painted with a cream formed of skim milk and flowers of sulphur, the house being closed for about an hour and the pipes kept hot during that time, then allowed to cool. The fumes given off will kill "white fly" and other hard-to-be-killed insects, such as red spider, being also useful against fungoid pests. In bad cases it may be necessary to heat the pipes at intervals of a few days to overcome the insect thoroughly.

Diseased Potatoes (S. B., Buxton).—The large tuber has been eaten into by some rather large creature, probably a slug, or one of the surface caterpillars or millipedes, certainly not wireworm. The appearance of the "work" is that of slugs, but we found no animal in the tuber, visible or microscopic. In the flesh was the mycelial hyphæ in a resting state of the Potato disease fungus, *Phytophthora infestans*, which may possibly remain inactive during the winter, or become energised by favouring circumstances, and cause the tubers to decay. In the warts is the mycelium of the scab fungus, *Oospora scabies*, and also some of black rot fungus, *Sclerotinia sclerotiorum*, syn. *Peziza postuma*. Likewise wet rot fungus, *Fusarium Solani*, and a microbe, *Bacillus amylobacter*. On which of these to saddle the condition of the tubers passes our understanding, for all are very injurious, and capable of producing disease. The "right horse" to put the mischief on is the soil and the seed or sets. The former must be foul and the latter not clean when planted. We advise a thorough liming this autumn during dry weather, 10 tons per acre, 1½ cwt. per rod, spreading evenly, and leaving on the surface for a few days, then ploughing or forking under lightly. Then supply 5 cwt. of kainit per acre, 3½ lbs. per rod, and leave on the surface. In the course of a fortnight or three weeks afterwards plough or dig the land in the usual manner. Another plan and better is to double plough or trench the land first, then use the lime, follow with the kainit after skimming or pointing in the lime as before advised. In the spring, especially in the former case, supply 10 cwt. of ground gypsum per acre, or 7 lbs. per rod, and instead of animal manure use fertilisers, such as rape meal, superphosphate, and double sulphate of potash and magnesia. If trenched apply manure in the autumn or early spring, not using it in the drills, but over the whole ground, and work in. These methods, with a change of seed, have proved effective in similar cases.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state.* (E. A.).—1, Round Winter Nonesuch; 2, Blenheim Pippin; 3, Tower of Glamis; 4, Hollandbury; 5, Greenup's Pippin (Yorkshire Beauty); 6, Striped Beefing. (W. T.).—1, Dutch Codlin; 2, Barnack Beauty. (J. A. S.).—1, Williams' Bon Chrétien; 2, Souvenir du Congrès; 3, hard, send when in condition for testing; 4, Horned Pearmain; 5, Baumann's Red Reinette; 6, Cox's Pomona. (O. N.).—1, Warner's King; 2, Ecklinville Seedling; 3, Tyler's Kernel; 4, Beauty of Hants; 5, The Queen; 6, Sandringham. (M. T.).—1, Seaton House; 2, Potts' Seedling; 3, Reinette du Canada; 4, Cornish Gilliflower; 5, Lane's Prince Albert; 6, Beauty of Stoke. (Cedo Nulli).—1, Autumn Bergamot; 2, Doyenné Boussoch; 3, not in condition for naming, possibly Bergamot Esperen; 4, Ribston Pippin; 5, Alfriston; 6, possibly new Northern Greening. (R. M. D.).—1, Royal Codlin; 2, Scarlet Nonpareil; 3, Nelson Codlin; 4, not known, possibly local; 5, if not a highly coloured and malformed fruit of Annie Elizabeth we do not recognise it.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (M. D.).—1, Gaultheria Shallon; 2, undeterminable from such a withered specimen; 3, send when in flower, possibly Olearia Haasti; 4, Alyssum saxatile; 5, Kerria japonica variegata; 6, Polygala Dalmaisia. (J. D.).—Vitis inconstans (Ampelopsis Veitchi). The size of the leaves is probably due to the soil or position; the species is very variable. (C. H.).—1, Rudbeckia speciosa; 2, Helenium autumnale; 3, Aster amellus bessarabicus; 4, A. acris; 5, Pyrus torminalis. (M. H. S.).—Crataegus coccinea.

TRADE CATALOGUES RECEIVED.

J. Cheal & Sons, Crawley.—*Trees and Shrubs.*

J. R. King, Coggleshall and Reading.—*Bulbs.*

W. Rumsey, Waltham Cross.—*Roses and Fruit Trees.*

R. Wallace & Co., Colchester.—*Hardy Plants and Bulbs.*

COVENT GARDEN MARKET.—OCT. 5.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve ...	1	3 to 3	Lemons, case ...	30	0 to 60
Cobs ...	45	0 50	St. Michael's Pines, each	2	6 50
Grapes, lb. ...	0	10 16			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch...	2	0 to 3	Maidenhair Fern, doz.		
Bouvardias, bunch ...	0	6 to 9	bnchs. ...	4	0 to 8
Carnations, 12 blooms ...	1	0 3	Mignonette, doz. bnchs. ...	1	6 3
Chrysanthemums, per doz.	1	0 4	Myosotis, doz. bnchs. ...	1	0 2
Eucharis, doz. ...	2	0 3	Oreids, var., doz. blooms	1	6 9
Gardenias, doz. ...	1	0 2	Pelargoniums, doz. bnchs.	3	0 6
Geranium, scarlet, doz.			Polyanthus, doz. bnchs. ...	1	0 1
bnchs. ...	4	0 6	Pyrethrum, doz. bnchs. ...	1	0 1
Gladioli, per bunch ...	1	0 1	Roses (indoor), doz. ...	0	6 1
Lapageria (white) ...	1	6 2	„ Red, doz. ...	0	3 0
„ (red) ...	1	0 1	„ Tea, white, doz. ...	1	0 2
Lilium longiflorum, 12			„ Yellow, doz. (Perles)	1	0 2
blooms ...	4	0 5	„ Safrano (English) doz.	1	0 2
Lily of the Valley, 12 sprays	1	0 2	„ Pink, doz. ...	1	6 3
Marguerites, doz. bnchs.	1	6 2	Smilax, bunch ...	1	6 2

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0	0 to 0	Mustard and Cress, punnet	0	2 to 0
Beans, $\frac{1}{2}$ sieve ...	0	0 0	Onions, bushel ...	3	6 4
Beet, Red, doz. ...	1	0 0	Parsley, doz. bnchs. ...	2	0 3
Carrots, bunch ...	0	3 0	Parsnips, doz. ...	1	0 0
Cauliflowers, doz. ...	2	0 3	Potatoes, cwt. ...	2	0 4
Celery, bundle ...	1	0 0	Salsafy, bundle ...	1	0 0
Coleworts, doz. bnchs.	2	0 4	Scorzonera, bundle ...	1	6 0
Cucumbers ...	0	4 0	Seakale, basket ...	1	6 1
Endive, doz. ...	1	3 1	Shallots, lb. ...	0	3 0
Herbs, bunch ...	0	3 0	Spinach, pad ...	0	0 0
Leeks, bunch ...	0	2 0	Sprouts, $\frac{1}{2}$ sieve ...	1	6 1
Lettuce, doz. ...	1	3 0	Tomatoes, lb. ...	0	4 0
Mushrooms, lb. ...	0	6 x	Turnips, bunch ...	0	3 0

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6	0 to 36	Foliage plants, var., each	1	0 to 5
Aspidistra, doz. ...	18	0 36	Lilium Harrisii, doz. ...	12	0 18
Aspidistra, specimen ...	5	0 10	Lycopodiums, doz. ...	3	0 4
Dracæna, var., doz. ...	12	0 30	Marguerite Daisy, doz. ...	6	0 9
Dracæna viridis, doz. ...	9	0 18	Mignonette, doz. ...	4	0 6
Erica various, doz. ...	9	0 24	Musk, doz. ...	2	0 6
Euonymus, var., doz. ...	6	0 18	Myrtles, doz. ...	6	0 9
Evergreens, var., doz. ...	4	0 18	Palms, in var., each ...	1	0 15
Ferns, var., doz. ...	4	0 18	„ specimens ...	21	0 63
„ small, 100 ...	4	0 8	Pelargoniums, scarlet, doz.	4	0 6
Ficus elastica, each ...	1	0 7	„ „	8	0 10



A PERENNIAL TOPIC.

THE British Isles lie between latitudes 50° and 60° N., and are thus counted among those lands which enjoy a temperate climate. No extremes of heat or cold, no excessive rainfalls, and no withering drought; and yet, notwithstanding our advantages, there is no land where the weather is more variable, or less to be depended upon.

We think it is the Americans who say our weather is not weather, only samples of all known weathers, and we think that is a fairly correct estimate. We know for one thing it is weather very inducive of catarrh and every form of rheumatism, and yet its very variations make a pleasant break in the monotony of our lives. Without the weather topic how could we break the ice when addressing a stranger? how get over our insular diffidence? It is the only subject we all have in common—religion, politics, trade, are all dangerous, unless we are quite sure of our ground; but we are all interested in what affects our health and spirits, and, we may add, as farmers, our pockets.

The world is about 6000 years old, and sunshine and shower have ever been present, and yet, with all the accumulated wisdom of ages, we seem no nearer than ever in solving one of the greatest problems which has ever perplexed mankind. We can only tell at night what the day has brought forth, and as for predicting the state of the weather a week in advance, that is what the boldest of us dare not do.

Signs and portents avail nothing, that is, their influence does not extend over more than forty-eight hours at most. We have thought that good and bad weather seems to fall in cycles, but we cannot determine the working causes. Prophets there have ever been who held themselves wiser than the generality of men, but as their calculations are not based on any sound basis, their predictions, as often as not, fall to the ground.

Weather rules are wide and elastic, and comprise many an "if." Weather signs vary with the varying districts, and a weather-wise man here is a fool there. To get at weather views we must study folk lore. Every old, or even middle aged villager, has very clear notions as to what may be called weather signs, and as this has been going on for centuries these people are perhaps more to be depended upon as weather prognosticators than savants.

When a man's daily bread depends on fine weather his mind is full of that subject, and he becomes a keen observer of natural phenomena. January is always reckoned one of our driest months,

but at the same time how seldom of late years could February really be called "fill dyke?" There is one month that never belies itself. March without stormy winds is a thing unknown, and to what other month belong such bitter sleet showers? We have known April without April's tears, and a sorry time it is for vegetation. May has a reputation for dryness. If there is a break in the weather it occurs about the 12th or 14th, and often during the week ending 21st comes back a sample of old winter. "A dripping June puts all in tune." Yes, when with the drip comes soft weather; but what when sharp frost cuts vegetation as late as the 14th? July is looked upon as the wettest month of the year—from that are we to judge that St. Swithin is always raining?

No, the poor old saint has much to answer for; but he is not responsible for the heavy thunderstorms that so often break up the sunny weather of this month. We have noticed for years that our hottest days are in August, hot with the closeness of an oven; hot, so hot that even thunder rain barely cools the atmosphere. When September is fine we think it the most glorious month of the whole twelve. The air so soft and balmy, Nature so lavish with all her ripened stores, and the year's decay not so apparent as to be painful. With October come the first white frosts, and we never yet knew three white frosts in succession that were not followed by a downpour. Bad as are the fogs of November, they are not, even in England, universal, and we have often seen bright cheery frosts when ice would bear a duck before Martinmas. In that case the rest of the winter is free from sharp frost. Let the doubter just throw his mind back to past years, and he will, if he has any memory at all, say we are right. There is often a sharp change in the weather about Christmas day, but for real bitterness give us the early days of January.

We consider here there are several infallible weather signs. Do our readers know that formation of clouds spoken of as "The Ark;" a shuttle-shaped cloud right across the sky? Within forty-eight hours rain is inevitable, and with a wet N.E. wind we may count on at least twenty-four hours of rain. How often we verify the truth of the old adage—"Rain before seven, clear at eleven?" If there is to be a break it is then; but a rain that begins between twelve and one makes a very hopeless sort of day.

Do you ever notice, reader, the dust come whirling down the road and rising to the height of a house? As the wind drops the rain falls to a dead certainty. How many watery sunsets have we seen only to be followed by a more watery day! Yet in a really dry time nearly all signs fail with the exception, perhaps, of the twinges in the rheumatic members of the aged. Touching the aged, who does not know how fondly they cling to the idea of the influence of the moon on the weather? That is the main reason why they buy an almanac, so that they may know the exact hour of the moon's changes.

We have heard it stated times out of count that as it was raining at the time of the moon's change, or fine weather, as the case might be, so would the weather be, more or less, till the next change. Hopeless to expect other till the next quarter, or full moon.

Of the ideas regarding the moon's connection with the weather, we might quote many current fancies. It is a bad sign if the moon changes on a Saturday or Sunday; a full moon clears away the clouds; that to see an old moon in the arms of the new portends rain; two full moons in a month cause flood; when the new moon lays on her back bad weather is certain; and a halo round the moon is a sign of storm and rain.

We have met with a couplet which puts the matter, or rather the truth of the matter, into a nutshell—

The moon and the weather may change together,
But change of the moon does not change the weather.

The closing of certain flowers is said to foretell rain, such as the Pimpernel and the Marigold, but they will close on the approach of moisture in the air, which does not of necessity fall in rain. Swallows, too, fly low late in autumn because the air may be heavy and the insects on which they live cannot seek the higher reaches.

There is another point on which we should like to comment.

When the hedgerows are particularly full of sheeps and haws the statement is often made that the winter will be a severe one, and Providence is assuring the necessary food for birds. This does not to our mind appear sound logic. We consider the superabundance of berries to arise from the fact that the previous autumn was a good season for the ripening of wood. Soft under-ripened wood will never produce good crops. A Nut year and a Wheat year go together, and it is most certain that the little Apples, to become big ones, need christening at or about July 15th. We have seen no big Apples this year.

A moderately dry back end is of incalculable value to the farmer. He gets his Wheat well home, he gets his Wheat well in; his sheep pastures keep sweet and wholesome and nutritious, and his Turnips don't get on too fast as to be woolly when needed for food. Then for those who have a second harvest in October, think of the difference to workers and horses when the "taties" come up clean and dry and sound. Mangolds, too, in a fine season can be allowed to stand a bit longer—at least till the throng of the work is over.

We are rejoicing in a glorious hunter's moon, and we are not looking out for signs of broken weather. May it be far away.

WORK ON THE HOME FARM.

Another dry week has given the drought a much more serious aspect. Ploughing is impossible with the land in its present baked condition, and here we are in October without an acre of lea prepared for Wheat sowing. The prospect for next season's Wheat crop is anything but good, for in any case the drilling must be late, and the seed bed is hardly likely to be an ideal one.

The Wheat area will be much diminished by this difficulty, for with a prospect of scarce winter keep for stock many farmers will prefer to graze their seeds two or three months longer, and then put in a crop of Oats.

A neighbour expressed his determination to plough one field at any cost of labour and ploughshares, but he had to give it up as impracticable.

Turnips are suffering terribly, and rain would be too late now for most of them; even the latest sown are ripening off, as if it were December. Occupiers of heavily stocked farms are very anxious as to the future, and naturally so.

When a trouble is foreseen it can generally be successfully met, and by keeping off roots as long as possible and using a maximum proportion of dry food the winter may be tided over without much sacrifice. The very fine and well got hay crop must prove its value soon, and we are surprised to see good new hay selling at such low prices.

There is still plenty of work for the horses in the fallows, and excellent work is being done. The farmer who has much left to do in cleaning his land next spring can only have himself to blame.

Potatoes have ripened off very quickly and are ready to lift, but hands are very scarce. The managers of our village school now divide the school holidays between the corn and Potato harvests. The latter commences next week, and for a fortnight or so the elder children will be busily engaged in assisting the farmer to store his crops, whilst earning enough money to find themselves in winter boots.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1898. September and October.		Barometer at 32°, and Sea Level	Hygrometer		Direc- tion of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Tempera- ture.		
			Dry.	Wet.			Max.	Min.	In Sun	On Grass	
		inches.	deg.	deg.		deg.	deg.	deg.	deg.	inches.	
Sunday	25	30.080	55.4	49.0	N.	58.0	62.1	47.5	91.8	41.9	—
Monday	26	30.087	53.3	47.6	E.	56.4	64.1	38.2	95.4	34.1	—
Tuesday	27	29.826	50.7	47.3	E.	55.7	64.4	38.9	85.2	33.1	—
Wednesday	28	29.957	50.9	47.1	W.	55.4	64.7	42.1	104.7	35.9	—
Thursday	29	29.984	46.4	45.0	N.	54.7	65.9	36.8	100.7	32.4	0.203
Friday	30	29.687	52.8	51.5	E.	55.2	57.6	48.7	73.6	46.8	—
Saturday	1	30.280	53.7	50.5	N.	54.1	66.3	44.9	97.1	37.9	—
		29.986	51.9	48.3		55.6	63.6	42.4	92.6	37.4	0.203

REMARKS.

25th.—Cloudy early; bright sun from 11 A.M.
26th.—Sunny generally, but cloud at times.
27th.—Frequently sunny in morning; cloudy afternoon, with solar halo and a slight shower at 4.45 P.M.
28th.—Brilliant early, and almost throughout.
29th.—Fog early; bright sun from 9 A.M. to noon; generally overcast after, and rain from 7.30 to 9 P.M.
30th.—Rain from 2 A.M. to 3.30 A.M.; overcast day; bright evening and night.
1st.—Bright sun almost all day; cloudless humid evening.
A week of average temperature and small rainfall, completing the driest September in forty years.—G. J. SYMONS.



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Journal of Horticulture.

THURSDAY, OCTOBER 13, 1898.

THE JOURNAL OF HORTICULTURE can be obtained from the Office, 12, Mitre Court Chambers, Fleet St., London, post free for a Quarter, 3/9. Editorial communications must be addressed to 8, Rose Hill Rd., Wandsworth, S.W.

THE NEW CHRYSANTHEMUM SCOURGE.

AS will be seen on subsequent pages of the present issue, serious attention has at last been paid by the N.C.S. to the insidious and destructive visitant of the Chrysanthemum, known as the Rust Fungus. We have from time to time, and many times, referred to the subject, pointing out the nature of the invader, and suggesting preventive, palliative, and remedial measures, which after experiments with them, and many others, had been found to best answer the desired object.

Twelve months ago we illustrated leaves of Chrysanthemum, Artemisia, and Carduus, as infested with rust fungus, from sketches supplied by Mr. G. Abbey, who had examined the leaves microscopically, and he also sketched what he found in them in the form of spores, these being necessarily enlarged for showing their character, germination, and the permeation of mycelia threads through the leaf to its more or less rapid destruction. As the Chrysanthemum leaves were the first we had received similarly affected, we asked for them close and careful examination. This was given, with the result of the illustrations, the first of the kind, we understand, published elucidatory of the subject.

Mr. Abbey, who appears to be an untiring investigator, and a close student of minute organisms, after satisfying himself of the nature, if not of the identity, of the invading fungus, sought for infested leaves of others of the Compositae for comparison, and he appears to have concluded that there was little or no difference between the attacking foe in any of them.

We do not know that it greatly matters from the Chrysanthemum grower's point of view whether that is so or not, so long as he knows the nature of the infestation and method of preventing or subduing it. But investigators are prone to go far beyond such materialistic limitations, and search assiduously to discover the names of what the microscope reveals to them, and then if they can find none in existing species of fungi on allied plants to meet the case, what are thought to be

appropriate names are provided, to stand or fall according to the soundness or otherwise of the foundation on which they rest.

As the result of investigations and examinations of rust-infested leaves, Mr. Abbey has now arrived at the conclusion that the fungus differs in some essential points from that or those which attack certain hardy British Composites. Whether he is correct or not can only be settled by further researches; but this has to be said, as a matter of fact, that his conclusions are founded on actual examinations, and we suspect he has had more rust-infested Chrysanthemum leaves under the microscope than has any other person living. We have sent him hundreds from various districts, and he has been diligently working at the subject for more than a year.

The action of the N.C.S. has, we are glad to say, stimulated some of our respected contemporaries into activity, and impelled them to join in the crusade against the minute but voracious fungus. They evidently do not agree with Mr. Abbey as to the identity of the marauder, though they do not differ on the methods of combating it from those which he advised when his first sketch was published a year ago. Illustrations are given by two of our co-workers of a fungus-infested leaf and of the spores of the parasite, to which they ascribe the injury that has been wrought in Chrysanthemums. One of these leaves differs from any we have seen, in the conspicuous and thinly disposed bold specks on the surface. In the other leaf they are more naturally disposed, but nearly obscure, as is often the case. The highly magnified summer and winter spores were evidently both obtained from the same source, though they are not precisely alike. As it is not stated that they were discovered in a Chrysanthemum, we may assume they are representations of *Puccinia Hieracii*, the alleged Chrysanthemum parasite, with which cultivators are troubled.

If those spores have actually been taken from Chrysanthemum leaves that would settle the matter against Mr. Abbey, but if from *Hieracium* the question would be open to reasonable doubt, inasmuch as after examining thousands of spores in diseased Chrysanthemum leaves, he has not found any so nearly like them as to enable him to regard them as *Puccinia Hieracii*. In view of his continued investigations, especially of recently sent specimens, we asked him to prepare sketches of the results which he found, so to say, up-to-date. He was not to take anything from books, but to reproduce, with as near approach to exactitude as he could, what he actually found in the leaves we had forwarded to him—that, and nothing more.

He has done so, and we venture to think the illustration on another page is the best that has yet been produced on this perplexing subject. He informs us positively that he has sketched what he actually found in the Chrysanthemum, and that the figures are strictly accurate in every particular. He has examined specimens during every month in the year, all the spores in the pustules, and except in the very first pustule opened last year, has not detected a teleuto or winter-resting spore (which differed from those above referred to), but has found summer spores to retain their vitality over a very long period of time.

A point that cannot be omitted in considering the question of identity of the *Hieracium* and Chrysanthemum fungus is this, *Hieraciums* have been grown for generations, and produced countless myriads of spores, yet it was not till 1897 that the general outbreak of the fungus occurred on Chrysanthemums, though a case was reported in 1896. The infection seems to have first appeared in many widely distant places in England at the same time; we received specimens also from Scotland, Wales, and Italy. It was just previously known in America, and the varieties of Chrysanthemums which first gave evidence of infestation were of American origin. Transatlantic florists have given us splendid Chrysanthemums, and not reproach but sympathy should be extended to the raisers by their plants falling victims to a ruinous parasitic pest.

Why should *Puccinia Hieracii* have left Chrysanthemums severely alone till the year above mentioned, and then sprung on them so suddenly and mysteriously? Though the most luxuriant were attacked the more severely, yet high or "forcing" culture has long

prevailed. Exuberant growth may, and probably does, favour the fungus; still it does not account for the long immunity of generously grown plants and the recent sudden infliction, for millions of plants have been grown on the present high cultural lines, and closely crowded together during the past twenty years and more.

On turning to the most modern work on cryptogamic parasites within reach, the splendid volume of Dr. Karl F. Von Tubeuf of the University of Munich, and translated into English by Dr. William G. Smith of the Edinburgh University*, we find "*Puccinia hieracii* (Schum) (Britain and U.S. America). Found on numerous Compositæ—e.g., *Carlina*, *Cirsium*, *Carduus*, *Centaurea*, *Leontodon*, *Scorzonera*, *Crepis*, *Hieracium*, *Cichorum*, &c." Chrysanthemum is not mentioned in this connection, as we may reasonably expect it would be if the plant were such a favourable "host" for that particular fungus as Mr. Massee implies.

This gentleman has worked diligently and successfully amongst cryptogamic parasites, and his labours are universally and deservedly appreciated, but he has not told us that he has discovered such teleuto or winter spores as he has figured of *Puccinia Hieracii* abounding in the tissues of infested Chrysanthemums—at least not in his latest published articles. Possibly he may do so at the conference (these remarks are written in advance of it), and if he does we should accept the information gladly without detracting from our appreciation, in which many gardeners join, of the strenuous endeavours of Mr. Abbey to hunt down and destroy one of the smallest, yet, in effect one of the greatest and most difficult to combat, enemies of the Chrysanthemum.

Our persevering colleague is a gardener of fifty years' experience. Acquainted with the cultivation of everything grown in gardens, and having had to deal with various enemies of plants and crops, he has sought to understand them and discover means for their subjection. Though those enemies do not affect him now, he devotes such of the acquirements that he possesses, as the result of commendable self-education, from the simple love of their exercise, and for the benefit of others. We are afraid he is inclined to think that because he is "only a gardener," and nothing more, he is regarded as a sort of scientific pretender by excellent men who are not gardeners, but something more. He may have been at times greatly daring in his deductions, but if these happened to be too advanced, he was at least honest in his convictions. His zeal is unbounded, his desire to help where he can almost a consuming passion, yet no man can be found in the wide domain of gardening more modest and retiring than he. His work in this Chrysanthemum rust question is seen, and is, of course, open to criticism. Whatever this may be, his work is real; and we should like him to feel that no men are more respected than genuine gardeners, who are also students, by men who are learned in the sciences connected with gardening.

As Mr. Worthington G. Smith has well said in his excellent work, "*Diseases of Field and Garden Crops*" (Macmillan), "Students of Nature should take little on trust, for the sharpest observer is liable to make a mistake in what he sees or thinks he sees, or in the meaning he sees or fancies he sees. Therefore, as far as possible, everyone should observe and think for himself, not with the view of finding fault with other observers, but to confirm, extend, modify and check the observations of other men. Any new observers who will sift and resist any statements of fact or deduction which appears to be unreasonable will be doing a real service to science." To this we add, whatever the professions or vocations of such men may be.

We thank all, including Mr. Abbey, for the endeavours that have been and are being made to master the new scourge of the Chrysanthemum, of which we have seen too much to permit us to apply to it any milder form of designation. Its danger rests in its minuteness; but growers need not be frightened, as we hope it has come to be conquered now that the N.C.S. has taken the matter in hand.

We reproduce the first illustration of the Chrysanthemum infestation as interesting for comparison with the last up to date, the result of recent investigation.

* *Diseases of Plants Induced by Cryptogamic Parasites*: Longmans, Green and Co., 1897.

BULBS AND THEIR CULTURE.

(Continued from page 270.)

SUCCESSIONAL FLOWERING.

A LONG succession of bulbous flowers may be obtained by potting the whole stock at the same time. This could be accomplished by forcing some, retarding others, and by making a judicious selection of suitable species and varieties. For instance, in the case of Hyacinths our earlier flowers would be produced by forced Romans; these to be followed by a selection of single Hyacinths, which force well and may be had in flower soon after Christmas. Good varieties for the purpose are Baron Van Thuyt, pink; Baroness Van Thuyt, white; Gigantea, rose; Norma, a fine pink (one of the best); Blanchard, white; Grandeur à Merveille, blush white; Charles Dickens, dark blue, and Czar Peter, light blue.

When grown expressly for supplying cut flowers the bulbs should be packed closely together in boxes, but if required for use as pot plants three bulbs placed in a 32-sized pot, or one in a 54, is an excellent way of disposing them. Bulbs of this type for forcing can be bought rather cheaply, and by the time they are over the choicest named varieties will be coming in.

The varieties of Hyacinths are so numerous that I can only deal briefly with them in the form of enumerating a few of the "gems" in each section. Those who take a special interest in them should critically examine the fine collection staged at shows, note those which take their fancy, and order for the following year. Among single reds the following will be found to be extra good:—Amy, bright carmine; Ball of Fire, Cavaignac, Dr. Coindet, Fireball, fine red, very dwarf; Howard, Koh-i-Noor, rose (semi-double); Meteor, Mrs. Beecher Stowe, rich rose; Prince of Wales, Princess Anna, and Robert Steiger. Single rose: Cardinal Wiseman, Emmeline, Etna, Fabiola, Princess Victoria, Rose à Merveille, and Tubiflora. Single White: Alba Maxima, British Queen, La Candeur, La Grandessc, Madame Van der Hoop, Mont Blanc, La Franchise, and White Bird. Dark blue: Grave of Napoleon, Blackbird, Masterpiece, Charles Dickens, King of the Blues, Graaf Van Nassau, and Nimrod. Light blue: Blondin, Canning, John Bright, Gladstone, and Lord Beaconsfield. Single yellow: Alida Jacoba. Bright yellow: Bird of Paradise, Gold Sceptre, Ida, King of Yellows, and Obelisk.

Double Hyacinths are not quite so numerous as the single varieties, but the number is each year being augmented, and some of the older forms require weeding out. The following include some of the best new and old varieties:—Red: Belle Alliance, Bouquet Constante, Crown of Flora, Disraeli, Marie de Medicis, and Venus de Medici. Rose: Baron Rothschild, Betsy, Lord Wellington, and Sir Walter Scott. White: Florence Nightingale, Bouquet Royal, Prince of Waterloo, Lord Castlereagh, Non Plus Ultra, and Venus. Dark blue: Garrick, King of the Netherlands, Van Speyk, Laurens Koster, and Louis Philippe. Light blue: Delicata, Rembrandt, Globe Terrestris, and Madam Marmont. Double yellow: Goethe, Piet Hein, Pure d'Or, Sovereign, and Sunflower. The two last named are the best yellows in commerce.

I must now retrace my steps and deal with the main subject of these notes. When one follows a train of thought it is sometimes difficult to know where it will lead to. I began this article with the intention of dealing with the various methods to pursue in order to secure a continuous succession of flowering bulbs from November till June, and lo! before I had proceeded far along the "main road," which is to lead me to the goal of my subject, I wandered into one of the many side paths, and have inflicted upon Journal readers a long list of names, which must, I fear, prove rather "dry" reading; but to those in need of help in regard to the selection of varieties, the "dry" matter will, like many apparently prosaic things in life, prove reliable and useful.

I stated in my opening paragraph that a good succession may be obtained by potting all bulbs at the same time; that, however, is seldom the best plan to pursue, as so much depends upon the weather experienced during the following winter. Should it prove open growths are formed quickly, and reach that stage when it is necessary to remove them from the plunging material; then, no matter how we manage them, a large percentage will come into flower simultaneously, instead of from a continuous succession.

Late Tulips and Narcissi are quite as useful as early ones for pot work, for although by the time they flower there are plenty of early ones flowering in the open air, there is just at that time a dearth of showy flowering plants in pots. I have repeatedly proved how acceptable well-flowered pots of Tulips are in June, and I know of nothing more useful for decorative work at that season. These matters must, I think, force upon us the conviction that the simplest and best way to secure a succession of flower is to pot up the required number of bulbs at intervals of one or two weeks. I usually pot my last lot of Tulips about Christmas, these being the late varieties. If the potting is delayed after that time the bulbs are considerably weakened,

as, unless stored in a very cool place, they start into growth, and whenever top precedes root growth the best results cannot follow.

All bulbs intended for late flowering should, after potting, be plunged in a cool position, such as on the north side of a wall, where the sun does not reach them. With a little management of the description above indicated it is surprising how long and regular a succession of gorgeous flowers may be obtained, flowers which, by reason of their lustre and freshness, brighten the homes and uplift the spirits of rich and poor alike.—H. D.

(To be continued.)

FLORAL DECORATIONS.

How frequently we hear the assertion that tastes differ; or, it is only a matter of taste! If we were to ask the utterers of such phrases to give a definition of what they considered the rules or basis of taste we should probably get, instead of a why and wherefore, a description of something they had seen, without the discernment between good and bad. We occasionally find those who believe themselves possessed with an hereditary taste, independent of all rules and traditions, and who will tell you that floral decorations, if done according to artistic rules or æsthetic laws, would become monotonous. But then they ignore the infinitude of conception arising from the power to observe, to feel, and to realise the sublime, beautiful, and picturesque in Nature and in art.

Simplicity and distinctness are unquestionably the two greatest principles to be borne in mind in all artistic floral or foliage arrangements. The elaborate dinner table decoration which a few years ago was so prevalent, is in most homes of taste a thing of the past, and what is done in the most tasteful style is characterised by simplicity. Rather than lay down any arbitrary rules I will give a description of a table on three successive nights at a great house in the county of Lincoln.

It was in the month of January, and the table was laid for over twenty. On the first night the centre was a silver epergne of two tiers with a cornucopia of glass, filled, in the two lower tiers, with Persian Lilac and Lily of the Valley, with a frond or two of Adiantum gracillimum; whilst from the cornucopia long slender twigs of Lilac depended. Four branches from the epergne held each a small Pandanus Veitchi with Panicum trailing down. Between the epergne and candelabrum, on each side, were two fine Cocos Weddelliana in silver vases, and beyond the candelabrum in the centre of the table two silver wine coolers, filled with Lily of the Valley *en masse*. Around the outer margin of the dessert dishes were slender glasses, some holding Lily of the Valley and others Persian Lilac.

Now the lesson to be learnt from this table was simplicity and lightness, with chasteness and elegance. No foreign foliage was used excepting the few fronds of Adiantum in the epergne, and the other foliage used was only that which was cut with the flowers as inseparable. It is, I think, also necessary to observe the flowers most suitable for epergnes or tall centrepieces on a dinner table are those of a fragile, delicate, and of a naturally pendant habit, in which category might be placed Odontoglossums, Oncidiums, Calanthe Veitchi, C. vestita oculata, C. vestita lutea, Coelogyne cristata, Miltonias, Epacris, Staphylea colchica, Clerodendron Balfourianum, Pentas carnea, P. kermesina, Plumbago rosea, P. capensis, and Thrysacanthus rutilans.

On the second night an antique silver bowl formed the centrepiece, and it held nine dwarf Poinsettia plants with glowing bracts; on each side of it in the centre of the table two plants of Begonia fuchsioides about 18 inches high, covered with dropping coral flowers, were placed in silver vases; then beyond the candelabrum, in the silver wine coolers, were Roman Hyacinths. The outer margin of the table had slender glasses filled, some with Roman Hyacinths and others with sprays of Euphorbia jacquiniæflora. Between the dessert dishes and the flower glasses large bracts of Poinsettias were laid singly and wide apart.

The lesson from this table, in addition to the last mentioned, is brilliance, which I hold to be a leading attribute of a successful dinner table arrangement. The Poinsettias, Euphorbias, and Begonias give this quality, and the colour combination is a perfect harmony of red, green, and white. Then another quality I would emphasise is the use of brilliant but short-lived flowers—in other words, flowers of a day. They are too little used and too little grown, because of their fleeting beauty. Amongst such might be included Hibiscus sinensis and varieties, with red, yellow, flesh coloured, and charmingly striped flowers; Allamandas, Dipladenias, Tecomas, Tigridias, China Roses, Oleander, and Phyllocactus.

Coming to table tracery, it should be of the lightest description, and where possible sprays of flowers and foliage intact, each laid on the cloth quite separated from its neighbour, looking as if some skilful hand and artistic mind had worked it on the cloth. Avoid, above all

things, foreign foliage; Lycopodium and Ferns for flowers to rest on are the outcome, to say the least, of a depraved taste.

On the third night the centre of the table had a richly chased golden ewer, which held a large bunch of Chrysanthemum W. H. Lincoln cut with long stalks, four golden goblets stood in a line with the centrepiece, and of the candelabra two held each a fine plant of Abutilon Sellovianum marmoratum with its charmingly parti-coloured leaves of deep and pale green and yellow; the other two goblets held each a well-flowered plant of the purple Justicia speciosa. The glass baskets around the margin were filled with sweet Violets. Leaves of the purple Strobilanthes Dyerianus were strewn on the cloth. The harmony of colour will be noticed in the yellow Chrysanthemums, the gold plate, and the purple leaves and flowers, and it is well to remember, however satisfactorily contrasted harmonies may be sometimes, perfected or complementary harmonies are better.—F. STREET.

MONTBRETIAS.

THESE bulbous plants, which are of a hardy character in suitable soils and positions, are much more in favour than formerly, and are used more frequently in decorations where cut flowers are employed, as well as being introduced into bouquets. The bulbs flower in summer, producing blooms of rich, bright, and radiant colours. The hybrids of *M. crocosmæflora* are the most popular. They are the result of a cross between *M. Pottsi* and *Crococoma aurea*. The branches and spikes of bloom reaching the height of 3 feet, and bearing over a dozen flowers on a stem, are most striking and effective, and cannot fail to add to the attractions of a well managed border.

Montbretias for outdoor culture may be planted in October. Choose a sunny, well drained border, the soil being rich and fertile from previous cultivating and manuring rather than from adding manure at the time of planting. If the soil is poor and requires enriching the manure given must be well decayed and thoroughly incorporated with the soil. Leaf mould may be added more freely with less danger of injuring the bulbs.

Plant the bulbs freely in masses 3 inches deep and 2 inches apart. Cover with some prepared compost, consisting of loam and a mixture of sand and leaf mould, marking the centre of the position with a stick or tally. It is safest to afford protection to the bulbs during the severest weather by a covering of cocoa-nut fibre refuse or dry litter. A slight dressing or mulch of manure which is well decomposed will be highly beneficial in spring and summer, serving to arrest evaporation, thus maintaining the soil in an equable condition as to moisture for a considerable period. Eventually, however, in dry, hot weather occasional waterings will be necessary, with stimulants during the flowering period.

Montbretias are also suitable for pot culture in the greenhouse. The most suitable sized pots are 4½ or 5 inches in diameter. Use them clean, dry, and well drained. The compost may be loam, sand, leaf mould, and manure. Mix three parts of loam to one each of the other ingredients, taking special care that the manure is fully decomposed and the leaf soil sweet, breaking up easily. Five bulbs can be placed in the 4½-inch pot, and six in the 5-inch size. Arrange the bulbs half-way down in the pots and then cover with soil. The compost if fairly moist will not need watering after the bulbs are placed in it until growth begins, but the pots must be covered at once with cocoa-nut fibre refuse in a cold frame.

Watering should be strictly attended to after growth begins, and the pots are removed from their covering. A cool, airy position on a shelf near the glass should be accorded the plants at once, so that they do not become drawn, and this treatment ought to be continued all through the early stages. As the flower stems advance give the plants a light position on the greenhouse stage, where they can have a free circulation of air, and a moist base for the pots.

After the flowers fade, the supplies of water should be gradually reduced until the foliage dies down, after which keep the bulbs dry until potting time again.—E. D. S.

GORDON'S GARDEN AT KHARTOUM.—The "Daily Mail" says, relative to the above, "Here was an Englishman doing his duty, alone, and at the instant peril of his life; yet still he loved his garden. The garden was a yet more pathetic ruin than the palace. The palace accepted its doom mutely; the garden strove against it. Untrimmed, unwatered, the Oranges and Citrons still struggled to bear their little hard green knobs, as if they had been full ripe fruit. The Pomegranates put out their vermilion star-flowers, but the fruit was small and woody, and juiceless. The Figs bore better, but they, too, were small and without vigour. Rankly overgrown with dhurra, a Vine still trailed over a low roof its dwarfed leaves and limp tendrils, but yielded not a sign of Grapes. It was all green, and so far vivid and refreshing after Omdurman. But it was the green of Nature, not of cultivation; leaves grew large and fruit grew small, and dwindled away. Reluctantly, despairingly, Gordon's garden was dropping back to wilderness."

STRAWBERRIES—OLD PLANTS v. STARVED RUNNERS.

THE remarks by "A Midland Gardener" are excellent as regards abstaining from the planting of starved and spider-infested runners. He, however, omits to advise the securing of a stock for autumn planting, obtained from Strawberry specialists, who, in many cases, will be able to supply healthy runners as soon as the ground is in a suitable state to allow of the work being proceeded with. It is well to take care of the old plants, and do all that is possible to restore some of their lost vitality by manuring, following, of course, the removal of useless runners and weeds. There are numbers of cases where Strawberries have been overdone by the severity of the drought, and are in such a plight that runners, where they exist, are absolutely valueless.

Some varieties are much less vigorous than others, and in light soils those of weak constitution have found a difficulty in eking out an existence, to say nothing of the impossibility to produce planting runners. I came across some beds of Latest of All almost leafless in July, eaten up with red spider and languishing for root moisture. If they still exist, they cannot be expected to produce a crop again, and the ground would be more profitably occupied with something else. In deeper soil, and on young beds, there are yet plenty of healthy runners to be found, and I would advise, instead of allowing the annual planting to lapse, even for one season, to either purchase from the nurseries or find some sympathising friend to furnish the desired number. Ground-rooted runners, when strong, do almost or quite as well as those layered in pots for outdoor beds.

The drought from which we have suffered so long has seriously interfered with their planting, and as soon as suitable weather comes every effort should be made to get them in their places. August is the best month for planting in the open, but many remain yet to be dealt with, because of the extreme drought. From ground runners put out last year in August I was able to gather the finest crop this summer I have ever had, Latest of All in particular giving an extraordinary crop of large berries. A bed has already been made of this from pot layers, and now, having had half an inch of rain, further progress may be made from ground-rooted runners.

Soils, however, have such a varying influence on Strawberries that the routine of planting and destroying of beds is best decided by results obtained. Generally, however, it is a good rule to plant a new bed each season, destroying a number equivalent to those planted. This is important as affecting the smallest gardens, yet for some unexplainable reason it is often neglected, old plants being retained in so many cases long after they have passed out of a profitable state. From young beds usually come the earliest and finest fruit, which alone should justify an annual renewal of a portion of the stock. From two to four years may be said to be the limit of usefulness, this depending largely on the nature of the soil and variety.

There are very few gardens, if any, where all kinds of Strawberries could be said to flourish and fruit satisfactorily. There are instances where they may be grown as annuals—that is, planting an entirely new stock each year, and destroying all bearing beds; others, again, are not to be depended on to give a crop until the second, and sometimes the third year.

In uncertain soils the most important problem to be solved is the choice of the most suitable variety, and this can only be determined by actual trial and close observations bearing on the matter. Many varieties I have tried here that have been found wanting, and probably my selection is less now than it has been at any time. At the same time trials are carried on in small numbers, with a view to ascertain whether some of the up-to-date sorts can equal or surpass the older standard varieties now doing excellent duty.

Royal Sovereign, as a matter of necessity, takes a good place, but its merits as an outdoor variety are not very superior to the older Sir Joseph Paxton, and, unlike many growers, the latter I have not discarded altogether in favour of the newer comer. For forcing, however, it has supplanted all the older forcing kinds, no other, except a few of Leader, being potted for next year's growth, the latter being simply a trial batch. My mainstay for outdoor crops is Latest of All; no other can approach them in weight of crop or size of berries. It is best, too, on yearling plants, but they are reserved for a second year, simply to furnish a succession, the older ones being the latest to ripen. Royal Sovereign, on the other hand, gives only a light crop the first year, and in this respect is distinctly inferior to Latest of All in our soil.

Strawberries well repay for good soil, this being prepared by deep digging or trenching, working in a good coat of manure at the same time. Early Potatoes are the best preparatory crop, though the Onion quarter would, when it can be spared, provide a good site, with no other preparation beyond the clearance of the crop and weeds. The custom of putting in Cabbage after Onions, however, has such a strong hold among gardeners that few would care to change their routine and exchange Strawberries for these.—W. S., Rood Ashton.

HYPERICUM OLYMPICUM.

THIS species, "T. B. M.," is a native of Greece and of Asia Minor, flowering from July to September. It is much smaller in habit and foliage than its congener *H. calycinum*, which is so much in use as an edging plant, but the larger flowers of the Olympian species are in strong rivalry with the better known species. The flowers (fig. 49) are nearly 3 inches across, and the same tint of yellow pervades the whole of the flower—corolla, filaments, anthers, ovary, and styles. The burnished inner surface of the petals reflects light strongly, making it appear paler than the evenly distributed colour would suggest. The calyx and leaves are of a pale glaucous green. The first flowers are terminal, but are quickly succeeded by axillary buds, which leave the stems at a large angle. The leaves are sometimes larger than appears in the engraving. It is increased by division or seeds, which latter should be sown as soon as ripe. Germination takes place in early spring. It grows to 8 or 9 inches in height, two or three stems appearing from near the crown, and is of a very simple habit.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL.—OCTOBER 11TH.

THE meeting in the Drill Hall on Tuesday was a most successful one, much better indeed than might have been expected in such dull weather, and with the conflicting show of the N.C.S. All sections were represented in a most creditable manner, and the attendance was good.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); with Rev. W. Wilks, and Messrs. J. Cheal, J. H. Veitch, J. Willard, A. F. Barron, W. Pope, T. J. Saltmarsh, R. Fife, G. Reynolds, F. Q. Lane, J. Smith, H. Balderson, W. J. Empson, G. Wythes, W. Bates, T. G. Miles, A. Dean, P. C. Veitch, and J. Wright.

Mr. John Williams, Whitborne Hall Gardens, Worcester, sent a fruit of *Ficus repens* produced by a plant in the gardens there. The circumstance is not common, and a vote of thanks was accorded.

Mr. W. Allen sent fruits of *Guntun Park Melon*, the result of a cross between Austin's Incomparable with Hero of Lockinge and Blenheim Orange. It is an oval well-netted fruit, with scarlet flesh, juicy, sugary, and very acceptable (award of merit).

Mr. D. Bodaly, Green Norton, Towcester, sent a dish of a seedling Apple named *Invincible*. Fruits of immense size, $3\frac{1}{2}$ inches high and as much in diameter, slightly angular, and rather higher on one side than the other, skin greenish yellow on the shade side, covered with russety dots and flushed with crimson, with short broken crimson streaks; eye deeply inserted in a very deep cavity, stalk also deeply inserted and very short (award of merit).

C. J. Shepherd, Esq., Trosby, Maidstone, sent fruits of Princess May Peach, raised from a stone of the Victoria Nectarine—a handsome Noblesse-like fruit and variety of promise, to be seen again.

Mr. John White, Blythewood Gardens, Maidenhead, sent a dish of Greengage Tomato, resembling the Plum in appearance, but deficient in quality for a Tomato.

Messrs. James Veitch & Sons sent a dish of a new Apple, *John Seden*, the result of a cross between Transparent Crab and King of the Pippins. It is a small Crab-like fruit, handsome as seen roping the branches, and of sweet and refreshing flavour (award of merit).

Mr. W. J. Empson sent from Amptill House fruits of his Melon, Empson's Seedling Melon. An award of merit was granted in June, and this was confirmed.

Mr. G. Wythes sent medium-sized, densely-netted fruits of *Wythes' Scarlet Melon*, with firm, scarlet flesh, sugary, juicy, and well flavoured (award of merit).

Messrs. T. Rivers & Son sent fruits of *Primate Plum*. Fruits very large, reddish purple, and of excellent quality for a culinary Plum (award of merit).

Mr. G. Reynolds sent from Gunnersbury Park a twin Melon weighing 7 lbs. (vote of thanks).

Messrs. George Bunyard & Co. exhibited 100 dishes of distinct varieties of culinary Apples, every fruit splendidly developed and the entire collection magnificent. A silver-gilt Knightian medal was unanimously awarded.

Martin R. Smith, Esq. (gardener, Mr. Blick), sent thirty-six varieties of Pears—all the fruits clean, fine, and such a collection as is rarely seen from a private garden (silver-gilt Knightian medal).

Mr. A. H. Rickwood, gardener to Dowager Lady Freake, Fulwell Park, Twickenham, exhibited a large collection of Apples and Pears (silver Knightian medal).

Mr. R. W. Green, Cornhill, Wisbech, sent thirty dishes of Potatoes, all clean and highly meritorious (silver Banksian medal). Messrs. H. Cannell & Sons arranged an imposing display of Onions in some thirty varieties, the characters of which were admirably displayed (silver Knightian medal).

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with Messrs. J. Fraser, C. T. Druery, H. B. May, J. H. Fitt, W. Howe, J. Jennings, J. Hudson, J. F. McLeod, C. J. Salter, J. D. Pawle, C. E. Pearson, W. Bain, G. Gordon, J. Walker, J. T. Bennett Poë, H. Cannell, E. Mawley, C. Blick, H. Turner, G. Paul, D. B. Crane, E. T. Cook, and C. Jeffries.

Messrs. T. S. Ware, Ltd., Tottenham, sent a small group of single Dahlias and Michaelmas Daisies, with a few other hardy flowers. Messrs. W. Paul & Son, Waltham Cross, contributed a handsome group of Roses. Some were cut, and others pot plants, but all were very good. The varieties, considering the lateness of the season, were very numerous and the colours bright (silver Flora medal). Mr. H. B. May, Upper Edmonton, made up a handsome table of Begonia Gloire de Lorraine and Ferns. The plants were splendidly grown and artistically arranged (silver-gilt Flora medal). Mr. George Prince, Oxford, was represented by some Tea Roses in splendid condition, and effectively displayed. The colours were very fine. One of the handsomest exhibits in the hall came from Mr. G. Wythes, gardener to Earl Percy, Syon House, Brentford. It comprised capitally grown Pitcher Plants, with Ferns. There were numerous Nepenthes and Sarracenias, with Cephalotus follicularis. Amongst the best of the former were sanguinea, Amiesiana, mixta, Mastersiana, Courti, Dicksoniana, Curtisi superba, Wrigleyana, and



FIG. 49.—HYPERICUM OLYMPICUM.

formosa (silver-gilt Flora medal). Messrs. F. Sander & Co., St. Albans, sent plants of Acalypha Sanderi, with Cattleyas, Miltonias, Habenaria carnea, and one or two other Orchids.

Cut Roses, with plants in pots, were largely shown by Messrs. Paul and Son, Old Nurseries, Waltham Cross. There were both quantity and quality observable in the several plants comprised in the exhibit. The varieties were well diversified and represented many of the best for autumn flowering (silver Flora medal). Mr. W. Bain, gardener to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, exhibited a small group of Pentstemons, Lobelias, and Verbena Ellen Willmott. In each instance quality was the predominating feature.

Messrs. J. Veitch & Sons, Ltd., Royal Exotic Nursery, Chelsea, contributed a collection of javanico-jasminiflorum hybrid Rhododendrons, representing several of the best varieties. The colours ranged from white to bright scarlet, and the well grown plants were carrying numerous excellent flowers (silver Banksian medal). A group of Physalis Franchetti and Pentstemons lent attractiveness to the exhibition, as did the splendid group of Michaelmas Daisies from the Langley Nurseries of the great Chelsea firm. These comprised many of the choicest varieties, such as ericoides, Coombe Fishacre, longifolius formosus, cordifolius, paniculatus W. J. Grant, amellus bessarabicus, dumosus, pulchellus, vimeneus, laevis, and several others (silver Flora medal).

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, De B. Crawshay, J. G. Fowler, H. Little, H. J. Chapman, J. T. Gabriel, W. H. Young, F. J. Thorne, T. W. Bond,

E. Hill, W. Cobb, W. H. White, S. Courtauld, T. B. Haywood, H. M. Pollett, and H. Ballantine.

Orchids were not very numerous, but of high quality. Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., contributed *Habenaria militaris*, *Lælia pumila*, *L. præstans purpurea*, *Cattleya exoniensis*, *Miltonia Lamarckiana*, *Cypripedium Lawrebel*, *C. regale*, *Cattleya St. Benoit*, *Epidendrum porphyreum*, and *Dendrobium phalaenopsis hololeuca*. Mr. Elphinstone, gardener to E. M. Mundy, Esq., Shipley Hall, Derby, sent *Angræcum iehneumoneum* in fine condition; while Mr. F. Fullerton, gardener to B. B. Baker, Esq., Roupell Park, Streatham, showed a well-flowered plant of *Odontoglossum grande*. Messrs. B. S. Williams & Son, Upper Holloway, contributed *Vanda coneolor*, *Cypripedium Charlesworthi magnificum*, and *Lælio-Cattleya Henry Greenwood*. Messrs. Paul & Son, Cheshunt, sent well-grown *Masdevallia towarensis* and *Cypripedium Spicerianum* (silver Banksian medal).

Mr. J. Hudson, gardener to Leopold de Rothschild, Esq., Gunnersbury House, Acton, exhibited a most beautiful group of *Dendrobium formosum giganteum*. The splendidly grown plants were carrying a profusion of flowers, and attracted a considerable amount of attention (silver-gilt Flora medal). Mr. W. Cobb, Tunbridge Wells staged a very fine plant of *Vanda Sanderiana Cobb's var.*, with *Cypripedium Percival*. Mr. W. A. Bilney, Weybridge, sent two well-flowered plants of *Lælia præstans*. Messrs. Charlesworth & Co., Heaton, Bradford, showed *Sophro-Cattleya Cleopatra*. Messrs. J. Veitch & Sons staged *Dendrobium rhodostoma*, *Lælia splendens*, with *Lælio-Cattleyas Dominiana langleyensis*, *callistoglossa ignescens*, and *Nysa*. Messrs. H. Low and Co., Bush Hill Park, for a small but very bright collection of Orchids received a bronze Banksian medal.

CERTIFICATES AND AWARDS OF MERIT.

Alocasia spectabilis (J. Veitch & Sons).—A handsome plant. The leaves are about 20 inches in length by 10 in breadth. The colour is very dark green with white veins and ribs (first-class certificate).

Chrysanthemum Jules Marg (W. Wells).—A dark crimson coloured, free blooming, early flowering variety of much promise (award of merit).

Dahlia Ebony (S. Mortimer).—This is of the Cactus section, and, as the name implies, is of deep blackish crimson colour (award of merit).

Dendrobium rhodostoma (J. Veitch & Sons).—A very distinct *Dendrobe*. The prevailing colour is pure white, each organ having a crimson tip (award of merit).

Dracæna Eichauti (J. Veitch & Sons).—One of the most graceful *Dracænas* we have seen. The dark green leaves droop elegantly, and the plant is of fine form. It ought to prove a valuable market variety (award of merit).

Lælio-Cattleya Dominiana langleyensis (J. Veitch & Son).—A superb form from a cross between *Cattleya Dowiana* and *Lælia purpurata*. The sepals are deep blush and the petals rose purple. The magnificent lip is intensely dark crimson, with a lighter fimbriated margin (first-class certificate).

Lælio-Cattleya Henry Greenwood (B. S. Williams & Co.).—The parents of this were *Lælia elegans Schilleriana* and *Cattleya Hardyana*. It is handsome, particularly the lip, which is bright velvety crimson. The side lobes are pure yellow. The sepals are blush, and the petals soft purple rose (award of merit).

Lenospadic Petrickiana (F. Sander & Co.).—A dwarf-growing Palm of attractive habit. The leaves are about 2 feet long and 1 wide, finely divided and of handsome shape; the colour is green (first-class certificate).

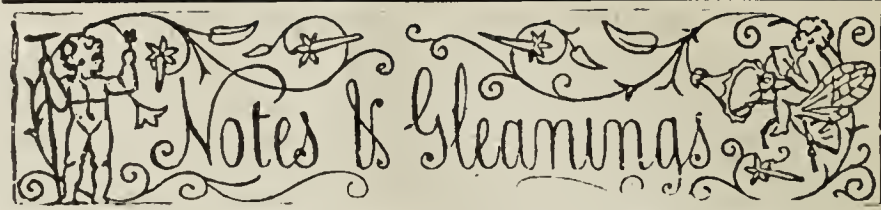
Sophro-Cattleya Cleopatra (Charlesworth & Co.).—This is a bigeneric hybrid, from a cross between *Sophrontis grandiflora* and *Cattleya Leopoldi*. The flowers are of the *Sophrontis* type, and are dull crimson in colour, with almost imperceptible spots (award of merit).

ISLE OF WIGHT.

THE Isle of Wight Horticultural Improvement Association is doing good work in the development of gardening, as was evidenced by the show of fruit in the Medina Hall, Newport, on Tuesday, the 4th inst. There were no money prizes, and the Island was well represented from east to west and north to south. The only outside exhibitors were Messrs. J. Cheal & Sons of Crawley, who staged 100 dishes of Apples and Pears. The hall and tables were tastefully decorated with flowering and foliage plants, including many choice Orchids and Ferns, from Messrs. E. Cave and Sons. The sixty exhibitors staged 600 dishes of fruits, besides run and section honey, which latter materially added to the interest of the show. The exhibition was opened by R. F. Eldridge, Esq., J.P., Vice-Chairman of the Isle of Wight County Council and Chairman of the Technical Education Committee.

The exhibits were remarkably good as a whole, and special mention should be made of the huge Pears (Pitmaston Duchess) staged by Alderman Colenutt; the magnificent Peaches (Lord Palmerston) from Mr. Snook; the dish of Tomatoes (Duke of York) shown by Mr. Tribbick; the Plums (Coe's Golden Drop), and the Red Currants (La Versaillaise), staged by Mr. W. Morris; the Plums (Pond's Seedling) staged by Mr. Williams; the dish of Apples (Newtown Pippin) staged by Mr. Honeybourne; the Grapes (Muscat of Alexandria and Black Alicante) staged by Mr. T. Brown, and the collection of seedling Melons, and a huge Australian Melon, weighing over 30 lbs., staged by Mr. J. Barkham.

The Committee return thanks to all who helped to make the show the success it was, and the attendance during the day was exceptionally good.—S. H.



WEATHER IN LONDON.—At last we have had a change in the weather. Each of the past seven days has been cold, the nights and mornings particularly so. On Sunday afternoon and evening rain fell heavily for some hours, as did it for a brief period on Monday morning. On one or two occasions there have been somewhat dense fogs.

GARDENING APPOINTMENTS.—Mr. J. Mack, for sixteen years head gardener at Drayton Manor, Tamworth, has succeeded Mr. Rye as steward and head gardener to Lord Harris, Belmont, Faversham, Kent. Mr. Jas. Hamilton, late of Byrkley Lodge Gardens, Burton-on-Trent, has been appointed head gardener at Manderston, Duns, the seat of Sir James Miller, and takes charge early next month. His successor at Byrkley is Mr. R. Nesbit, late of Needwood.

EXPERIMENTAL HORTICULTURE.—At a recent meeting of the Birmingham and Midland Counties Gardeners' Mutual Improvement Association, held in the Athletic Institute, John Bright Street, on Monday, October 3rd, a paper on "Experimental Horticulture" was contributed by Mr. Lewis Castle, Manager of the Woburn Experimental Fruit Farm. The subject was treated at some length, the experimental work in Great Britain and other countries was reviewed, condensed instructions were given for the formation of horticultural stations, and the direction in which useful work could be done were referred to. Mr. W. Latham, Curator of the Botanic Gardens, presided, and considerable interesting discussion followed, a hearty vote of thanks to the lecturer closing the proceedings at a late hour.

READING AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—The first meeting of the 1898-99 session was held on Monday evening last in the Club Room at the Old Abbey Restaurant, Mr. Turton presiding over a good attendance of members. The subject for the evening was "A few Orchids that can be grown with other plants," introduced by Mr. W. P. Bound of Bill Hill Gardens, Wokingham, and late of Messrs. Sanders, St. Albans. The lecturer took up the various varieties suitable for different houses, and gave very valuable and practical advice as to their treatment from the time of the purchasing of the pseudo-bulbs to the time the plants had done flowering. An interesting discussion ensued. A splendidly flowered specimen of *Miltonia Clowesi* was shown by Mr. Lever, gardener to Leonard Sutton, Esq., Hillside.

RETIREMENT OF MR. JAS. CARRUTHERS.—Mr. James Carruthers, gardener at Hillwood, Corstorphine, N.B., has found it necessary to retire from that charge on account of ill health, a most regrettable circumstance. He has held this post for twenty-two years, and he was known not only as an excellent gardener, but as one of the founders of the Edinburgh Chrysanthemum Society. He has occupied a high position at the great shows held in Edinburgh, and was one of the best of losers in competitions, never grumbling at fancied wrongs, but taking defeat in a proper spirit and with a firm resolve to do better next time. By his friends in and around Edinburgh it is thought the present is a fitting opportunity for presenting Mr. Carruthers with some tangible expression of their appreciation of his services to horticulture, and with this object in view a committee is being formed to carry out the necessary details.

AUTUMN PLANTING—WAIT TILL THE RAIN COMES.—According to the Calendar nurserymen should now be busy executing orders for Roses, Gooseberries, Currants, trees, and Conifers, and even lifting some few Pears and Plums. But, alas! the land is as dry as possible, and below the surface baked like a brick, making all this work impossible, and meantime we are bombarded with letters, such as "I am told now is the very best time to remove the things I ordered." "If you are unable to supply what I ordered you should have said so at the time." "Unless my order is forthwith executed please consider it cancelled." Well, what is the remedy? Simply patience. Practically the season is three weeks late; and as no fibrous roots can be got out of the hard soil, planters will undoubtedly gain by waiting. Apples are yet in full growth, and practically a week's heavy rain is wanted before lifting can be started. I send these few lines on behalf of myself and fellow nurserymen, as we, I feel sure, are only too anxious to do our best, and are not responsible when the Clerk of the Weather and the Calendar do not agree.—GEO. BUNYARD, *The Royal Nurseries, Maidstone.*

— AN AVIARY FOR STANLEY PARK, LIVERPOOL.—At a meeting of the City Council last week Councillor J. R. Grant, a gentleman well known in municipal affairs, offered to build at his own expense a handsome aviary for Stanley Park, and needless to say the gift was at once accepted by the members present. Mr. Grant deserves the thanks of all Liverpudlians, as Stanley Park is a great resort for the working class of this busy part of the city, who are certain to enjoy to the full this interesting presentation.—R. P. R.

— SEPTEMBER WEATHER AT HODSOCK PRIORY.—Mean temperature, 59.2°. Maximum in the screen, 85.8° on the 17th; minimum in the screen, 34.4 on the 24th; minimum on the grass, 26.0 on the 29th; 7° frost on the grass, none in the shade. Sunshine, 139 hours, or 37 per cent. of the possible duration, twenty hours above the average. Rainfall, 0.52 inch; difference from average, - 1.42. Rain fell on five days; maximum fall, 0.38 inch on the 29th. Rainfall from January 1st, 13.99 inches. Difference from average, - 4.32. A hot and fine month, very similar to 1895, but not so sunny. The maximum temperature is the highest yet reached in September.—J. MALLENDER, *Workshop*.

— SEPTEMBER WEATHER AT DOWLAIS.—Total rainfall, 1.78 inch, which fell on eleven days; greatest fall, 1.15 inch, on the 29th. Mean maximum temperature, 73°; highest reading, 90° on the 4th and two following days. Mean minimum, 43°; lowest reading, 31° on the 24th and 28th. The wind was in the W. and S.W. on twenty days. There were seven sunless days. The early part of the month was very hot and dry, the temperature on five occasions being higher than at any time in August, while on the 5th there was a difference of 45° in the day and night temperatures. Since the 17th it has been much cooler, and on the 29th we had a rough gale of wind, with heavy rain, which was much needed.—WM. MABBOTT.

— DROUGHT IN SOMERSETSHIRE.—I read in the "Daily Mail" that the trees and shrubs of Windsor Park have suffered very seriously by the long drought. All my Conifers have been seriously injured by the continued dry weather. All are covered more or less with small dead limbs. Having an unlimited quantity of water I have been supplying the roots with the needed moisture by pipes laid along the surface of the ground, by which means I hope to succeed in saving them. In some of the villages the people have to send miles to get a small supply of water for their wants. Through the unfavourable spring weather the Apple trees and Walnut trees have shed a large proportion of their leaves, and although I have between 2000 and 3000 fruit trees of all kinds the quantity of fruit is very small, and a great portion worthless.—J. CHAFFIN, *The Grange, Charlcombe, Bath*.

— SUSSEX WEATHER.—The total rainfall for the past month at Stonehurst, Ardingly, was 0.68 inch, being 2.45 inch below the average. The heaviest fall was 0.41 inch on the 29th. Rain fell on five days. A drier September was that of 1895, when only 0.29 inch was recorded. But in that year the fall for July and August amounted to 6.61 inches, while the same months this year only produced 2.06 inches. The dry September of 1895 was followed during the last quarter by a fall of 12.32 inches. What we may have this year remains to be seen; but if it only amounts to the average of 8.48 inches the total will be 22 inches, which will be the smallest amount for any year in a nineteen years' record, 1884, with a fall of 24.05 inches, being the nearest approach to it. The maximum temperature was 98° on the 7th, the minimum 38° on the 29th. Mean maximum, 72.22°; mean minimum, 50.25°; mean temperature, 61.23°, being 4.15° above the average. Things much freshened by rain on 29th; but it has again set in dry, with N.E. winds and barometer high.—R. I.

— SEPTEMBER WEATHER AT BELVOIR.—September was much drier and hotter than usual, and also gave an excessive amount of sunshine. The wind was in a S.W. direction seventeen days. The total rainfall was 0.54 inch. This fell on four days, and is 1.87 inch below the average for the month. The greatest daily fall was 0.45 inch on the 29th. The total rainfall for the first nine months (January-September) is only 12.70 inches, which is 6.62 inches below the average for this period. Barometer (corrected and reduced), highest reading 30.401 inches on the 4th at 9 A.M.; lowest 29.695 inches on the 27th at 9 P.M. Thermometers, highest in the shade (Stevenson screen) 88° on the 8th; lowest 33° on the 24th. Mean of daily maxima 69.26°; mean of daily minima 49.73°. Mean temperature of the month 59.49°. Lowest on the grass 29° on the 24th; highest in the sun 150° on the 8th. Mean temperature of the earth at 3 feet 59.56°. Total sunshine 216 hours 45 minutes. This is 95 hours 51 minutes above the average. There were no sunless days.—W. H. DIVERS, *Grantham*.

— WARE'S NURSERIES, TOTTENHAM.—We are authoritatively informed that these nurseries have been sold to Mr. J. H. Osborne, and the business has been formed into a limited company under the style of "Thomas S. Ware, Ltd." In every essential respect the business will be carried on as heretofore.

— SCHOOL OF HANDICRAFTS, CHERTSEY.—We are forming a museum in our School for teaching purposes, and a section has been set aside for the garden. We should be glad to know the best means of filling it, and the kind of specimens representing garden and farm. We are getting a collection of wood as far as we can. Any advice the readers of the *Journal* can give, with any specimens they have to spare, would be very welcome.—A. J. BROWN, *Farm and Garden Department*.

— DEATH OF MR. G. TAYLOR.—Those of our readers who knew him will learn with regret of the death of Mr. George Taylor, who was for so many years associated with Messrs. James Veitch & Sons at their Chelsea Nursery. He will be remembered as of a genial kindly disposition, and he was undoubtedly very widely respected. Mr. Taylor will long be remembered as being amongst the first to experiment in the raising of hybrid greenhouse Rhododendrons, and it was from him that R. Taylori took its name. We believe, too, that we are correct in saying that he raised the well-known and still excellent Veitch's Perfection Pea, which was first placed in commerce about forty years ago. For some years Mr. Taylor has been living in retirement at Deal, where he was interred on Tuesday last.

— A SNAKE IN A MELON CRATE.—Your readers might like to know of an unpleasant discovery made recently in the shop of Mr. T. Haslon, fruiterer, Liverpool. A crate of Melons had been brought into the shop, and the assistants were horrified to see protruding from the straw in the unopened crate the head and neck of a small snake. The crate was taken out of the shop on to the street pavement and carefully emptied, when there emerged from the straw a lively and very beautiful specimen of the Spanish adder about 18 inches in length. It was coaxed into a bottle, whence it was transferred to a glass-topped box, and it will probably find a resting place in the Liverpool Museum. Inquiry made amongst fruit dealers in Liverpool showed that such an incident had never within their recollection happened in connection with the Liverpool fruit trade before.—R. P. R.

— A BLENHEIM BOUQUET.—The marriage of Lady Lilian Churchill, sister of the Duke of Marlborough, to Mr. Grenfell, was solemnised in the Chapel Royal on Saturday last, October 8th, amid an unstinted profusion of choice white exotic flowers, that contributed largely to what was an exceedingly pretty as well as a bright and cheerful ceremony. The bride carried a lovely bouquet, made and despatched from Blenheim Palace gardens the same morning, whence, it will be remembered, the colossal bridal bouquet was forwarded to New York for the Duke of Marlborough's wedding. The one used on the present occasion was of the description known as a shower bouquet, and was composed of choice Orchids, white Tea Roses, Lilies of the Valley, Stephanotis, Eucharis, Orange blossoms, and white Carnations, skilfully set in Myrtle and Asparagus plumosus, the arrangement being rendered complete with a broad white satin ribbon encircling the handle, and depending in graceful lengths from bows below the marginal feathery sprays. It was an elegant arrangement, and reflected credit on Mr. Whillans, the head gardener at Blenheim Palace.

— THE DROUGHT.—The continued drought in the south-eastern parts of the kingdom has naturally served to accentuate the very remarkable deficiency in the year's rainfall. At many places in the West and North of England the deficiency is not very great, York having had as much as 84 per cent. of its normal quantity, and Liverpool no less than 92 per cent. In the southern and south-eastern districts the rainfall has amounted, with a few local exceptions, to less than two-thirds of the average, the total fall, even in the Scilly Islands (where rains are usually frequent) being only 63 per cent. of the normal. It is, however, in the south-eastern and south midland counties that the drought has reached its greatest severity, the rainfall for the whole nine months being only 55 per cent. of the average in London, 54 per cent. at Oxford, and 52 per cent. at Dungeness. We must again bear in mind also the fact that the present deficiency of rain commenced long before the beginning of the present year. Going back to May, 1897, it appears that both in London and at Oxford there has been a deficiency in thirteen out of the past seventeen months. At Oxford the total amount of rain for the whole of this very long period has been only 74 per cent. of the average, while in London it has been only 65 per cent. of the average. So long a period of drought seems to be without precedent, at all events in meteorological records going back to very near the beginning of the present century.



CHRYSANTHEMUM RUST (UREDO CHRYSANTHEMI).

This fungus first appeared in this country during the year 1897, and specimens were submitted to the Editor of the *Journal of Horticulture* on August 26th, reply being made to the inquiry on September 2nd (page 231) of that year. It seemed to correspond with the Mugwort rust (*Trichobasis*, or *Uredo Artemisiæ*), and was thus referred to. Other specimens came to hand during September, and a reply was given in the *Journal of Horticulture* September 23rd (page 302), the fungus still being referred to as the Mugwort rust. It was there said, and with truth, "There were thousands of spores—never a finer harvest seen—and every one would grow under favouring conditions, such as the fine leaves presented. The point is to prevent the spores germinating; this ought to have been done a

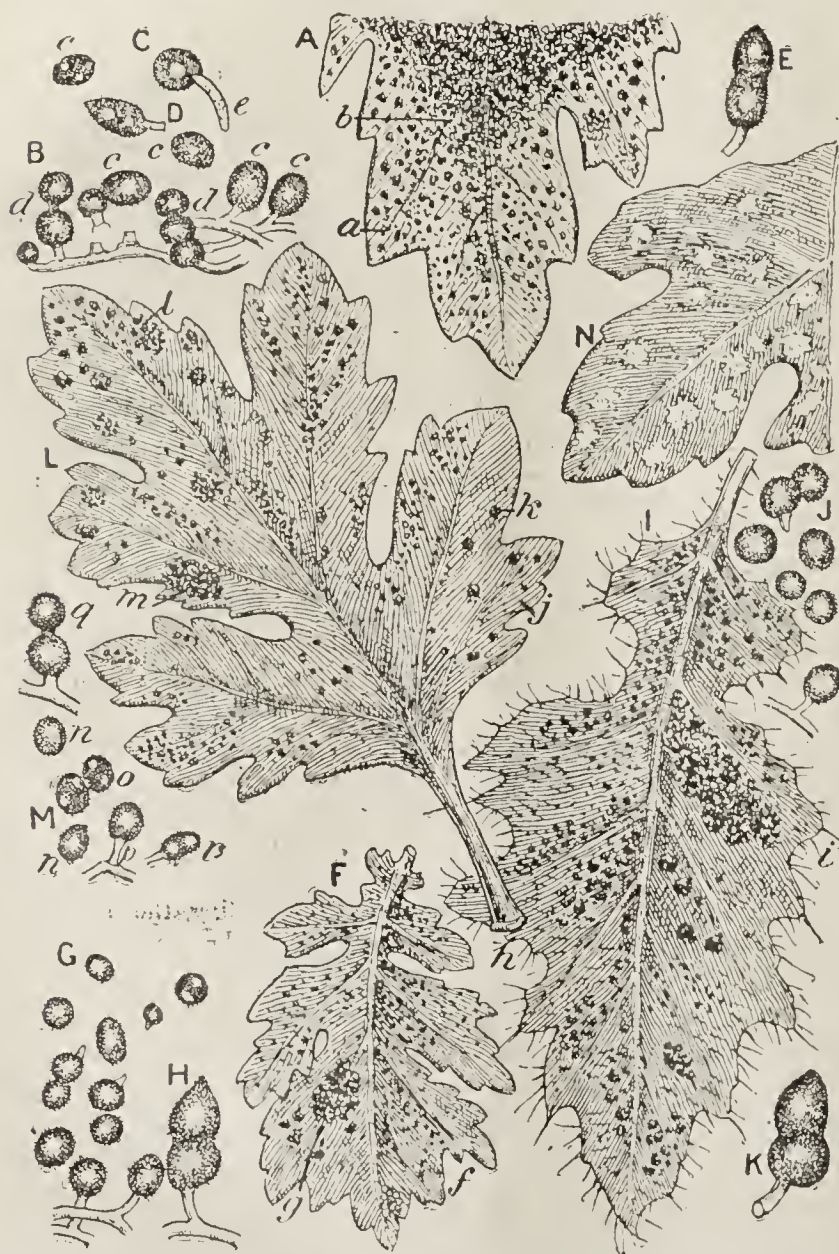


FIG. 50.—CHRYSANTHEMUM LEAF-RUST FUNGUS [*TRICHOBASIS* (*UREDO*) *CHRYSANTHEMI*, WITH FINAL STAGE—*PUCCINIA CHRYSANTHEMÆ*, AND OTHER RUSTS.]

References.—A, Part of affected leaf of *Chrysanthemum* (October 9th); a, small pustules of fungus; b, pustules confluent or run together. B, *Trichobasis* (*Uredo*) *Chrysanthemi* spores; c, usual form; d, concatenate type. C, summer spore germinating; e, germinal tube. D, teleutospore found in first pustule examined. E, mature teleutospore = *Puccinia Chrysanthemæ*. F, young leaf of *Artemisia vulgaris* (October 9th), showing: f, small pustules; g, pustules become confluent or run together. G, uredospores = *Trichobasis* (*Uredo*) *Artemisiæ*. H, teleutospore = *Puccinia Artemisiæ*. I, small leaf of *Carduus vulgaris*; h, pustules of root fungus; i, pustules confluent. J, uredospores = *Trichobasis* (*Uredo*) *Cichoracearum* or *Heraclei*. K, teleutospore = *Puccinia Cichoracearum*. L, *Chrysanthemum* leaf (August 26th): j, small pustules; k, large pustules isolated; l, clustered pustules; m, pustules confluent. M, uredospores from pustule; n, spores with transparent spot in centre; o, spores with two spots; p, spore on peduncle; r, miniature teleutospore, the uredospore = *Trichobasis* (*Uredo*) *Chrysanthemi*. N, part leaf of *Chrysanthemum*, showing spots on upper surface, and corresponding to pustules on the under side. All the leaves or parts natural size, and all the fungi enlarged 200 diameters.—(From *Journal of Horticulture*, October 21st, 1897.)

month ago by dusting the under sides of the leaves with a 10 per cent. sulphate of copper preparation in powder, such as anti-blight or fostite." A solution of sulphide of potassium, 1 oz. to 3 gallons of water, was also suggested as a preventive and remedy.

From that date (September 23rd, 1897) I commenced investigations with a view to the identity of the species of rust fungus found on *Chrysanthemum* leaves, and the outcome thereof appeared in the *Journal of Horticulture*, October 21st, 1897 (pages 380 and 381), and the illustration there and now given (fig. 50) is the first that appeared of *Chrysanthemum* leaf rust. The leaf there shown was one of the first attacked by the fungus in this country. It came from Berkshire, but since then I have learned that the parasite appeared on some cuttings in the spring of 1897; the cuttings were destroyed. Still the fungus presented itself on up-grown plants in August. The fungus was referred to in the "Gardeners' Chronicle" as *Uredo Hieracii*; also by Dr. Halsted in "American Gardening" as probably *Puccinia tanacetii*.

For the reason that the leaf-rust fungus does not accord with any British species the parasite was provisionally named *Uredo chrysanthemi*, and specimens from Italy, as well as various parts of this country, tend to warrant the deduction of its being an entirely new species. An article on the parasite from Mr. Briscoe-Ironside appeared in the *Journal of Horticulture*, November 4th, 1897, page 437, and a reply thereto on page 455. Other references to the fungus will be found in the issues of December 2nd, page 532, and December 9th, 1897, page 557. In 1893 the fungus was mentioned on February 3rd, page 114; February 10th, page 136; February 17th, page 151; March 3rd, page 188; March 17th, page 250; June 2nd, page 473, and also in recent numbers of this Journal. Thus the matter has been kept constantly before the Editor, and it was stated on page 268, October 6th, 1898, that the fungus had "taken a permanent hold."

The fungus attacks the *Chrysanthemum* in all its stages of growth, and may be found on cuttings in the spring and early summer, and very abundantly from the middle of August to the end of the season. The cuttings are probably attacked by spores from the plants infested in the previous year, but the enemy must have come from somewhere when it first made its appearance in this country. This was presumably in the winter of 1896 or the spring of 1897, the young plants containing the mycoplasma of the fungus when introduced from America. That appears the only feasible way in which the parasite could find its way to this country and to Italy. But neither in the United States, Great Britain, nor Italy, was the fungus known before 1897. This appears analogous to the case of the Potato disease, which made such general appearance in 1844, and subsequently at intervals as to be regarded as quite new.

Whether the climatic conditions have been peculiarly favourable to the development of the *Chrysanthemum* fungus, or the *Chrysanthemum* has been so changed in constitution by in-and-in-breeding, and so forced into unnatural development by high cultivation, are matters that require the serious consideration of growers, as there must be some cause for the sudden and widespread prevalence of the rust.

I think the forcing treatment may have something to do with the murrain, as some plants I have are practically disease proof through being grown as "hard as nails" in a poor and stony soil, though the cuttings were from the same plants as some others now badly infested with rust, these plants being grown in rich soil, well fed, and relatively luxuriant. A pinch of salt now and again seems to strengthen the leafage of *Chrysanthemums* wonderfully, and renders the plants more disease resistant.

In the next illustration given (fig. 51) are shown the most of what I have found of leaf rust, though I have examined scores of specimens. The fungus in every instance appears to originate in the tissue of the leaf. Attack is, for the most part, confined to the under side, but occasionally pustules appear on the upper surface of the leaf. Such leaf (A) generally has the tissues destroyed and browned or blackened (a), but the pustules on the lower surface do not give evidence of their presence by more than a light colour on the top side (b). The light colour afterwards turning first yellowish, then brown, is due to the abstraction of substances from the leaf by the mycelium of the fungus, which does not extend much beyond the area of the pustules.

The pustules appear more or less scattered on the under side of the leaf (B), and in bad cases run together (c). They are at first very minute, and noticeable only by their paler colour to the general leaf surface. As the mycelial hyphæ develop in the tissues the pustule becomes raised and paler in colour, the epidermis overlying being almost white. One such pustule is shown at C, and enlarged six diameters at d.

Having developed a densely matted mycelium there spring from this oval bodies, which raise the pustule inconsiderably, and by sheer

force of growth they break through the epidermis, causing it to crack, shown at *e*. Still the growth from beneath forces the cuticle farther off the pustule (*f*), and the ripe spores in the form of brown dust drop out (*g*). Ultimately the thin skin peels off, and the contents of the pustule are wholly exposed (*h*), and the spores liberated in such quantities as to smother the leaves below with dark brown dust (*i*).

A portion of the margin of a pustule with the spores developing is represented at *D*, enlarged 260 diameters. They are smooth and glossy when young, but become brown when mature. They are attached by a short stalk to the prostrate hyphæ (*j*), and when mature fall away (*E*). These Uredo, or summer spores, soon become more or less warted, probably a provision for attaching themselves to relatively smooth leaf surfaces. They tumble out of the pustule in little heaps, and appear somewhat concatenate or chained (*k*), which probably characterises the formation in the large pustules.

The spores coming in contact with a *Chrysanthemum*, and in

But how long will the Uredo or summer spores retain vitality? Some of the first or 1897 harvest are shown at *H*, and one of these has pushed a germinal tube twelve months afterwards. This, shown at *I*, indicates that the spores have the nature of resting spores, and in a greenhouse would retain vitality, so as to infest cuttings or plants from season to season.

As regards preventive or remedial measures, badly infested leaves should be picked off and burned, also any plants thoroughly infested should go the same way, in order to prevent the spread of the disease and any possibility of producing teleutospores. Cuttings should not be taken from infested plants lest they should contain mycoplasma; but stock had from outdoor plants, which, so far as I know, do not contract the disease. To prevent attack the cuttings should be dipped in quarter strength Bordeaux mixture—sulphate of copper, 1½ lb.; best chalk lime, 1½ lb.; water 22 gallons. Dissolve the sulphate in 1 gallon of cold water. Slake the lime in another gallon of water, and when



FIG. 51.—CHRYSANthemum LEAF RUST (UREDO CHRYSANthemI).

References.—*A*, upper side of leaf; *a*, pustules destroying tissues; *b*, light coloured spots corresponding to pustules on under side; *B*, under side of leaf; *c*, pustules run together; *cl*, enlarged six diameters. *C*, pustule a little above natural size; *d*, the same enlarged six diameters; *e*, epidermis commencing to crack; *f*, open pustule discharging spores; *g*, *h*, pustule wide open; *i*, dust or spores. *D*, section of portion of pustule, showing uredospores; *j*, mycelial hyphæ. *E*, discharged spores; *k*, little heap of spores, showing apparently chained formation. *F*, spores germinating; *l*, germinal tube. *G*, concatenate spores growing; *m*, germ tubes. *H*, spores of 1897 after twelve months' keeping. *I*, spore of 1897 germinating twelve months afterwards. *D*—*I*, spores enlarged 260 diameters.

presence of moisture, speedily grow (*F*), each pushing a germ tube (*l*). Concatenate spores (*G*) also push germinal tubes (*m*), and these enter through the epidermis into the tissues of the leaf, branch and push the mycelial hyphæ inter and intracellularly, form a felted mass, and finally produce erect hyphæ bearing the uredospores. It is needless saying that the fungus abstracts the juices of the plant, or so much of them as needs for its growth and perfection, thus weakening the *Chrysanthemum* and causing the collapse of the foliage.

Though I have examined many specimens, and kept an eye on any semblance of a teleutospore or final stage, I have not succeeded in finding any, except the one shown at *E*, fig. 50 (from the *Journal of Horticulture* for October 21st, 1897, page 381), and this was probably an interpolation, as several other rusts were examined at the same time; hence the winter spore may be suppressed, as the *Chrysanthemum* being grown under glass does not necessarily occasion its need for the continuance of the species. This, and the fungus living a latent symbiotic life as a mycoplasma in the cells of a cutting, had been foreseen, hence the idea of Puccinia of necessity falls to the ground, and the *Uredo chrysanthemi* holds sway.

cool pour through a coarse bag into the sulphate of copper solution slowly; stir, and then add the remainder of the water. For preventing the spread of the disease thorough spray with sulphide (not sulphate) of potassium half an ounce to a gallon of water, or 1 oz. permanganate of potash to 3 gallons of water. The plants should be laid on their sides, and thoroughly sprayed on the under side of the leaves. Mr. Briscoe-Ironside mentioned bisulphide of calcium as very effective when applied with a sponge, so as to thoroughly reach the spores in the pustules. This would break the thin epidermis over the spores, and thus get the solution in contact with them, and effect their destruction when in a comparatively tender state. The washing in that way with sulphide of potassium or permanganate of potash would be even more thorough.—G. ABBEY.

THE "Chrysanthemum rust" would appear to be much more prevalent this season than last, and has at last aroused the Committee of the N.C.S. to hold a conference on the subject, which ought to be the means of unfolding much useful information for the benefit and guidance of those who are troubled with the fungoid

disease. In appearance it is not much unlike the rust which appears on the backs of the Oak leaves at this time of the year, but I suppose it is not the same thing, or we should have been troubled with it on Chrysanthemums long before now.

My first experience with the infection was in the early part of this year, although I had seen a large collection badly smitten with it last autumn. I found it on some cuttings which had come from a friend who had a few plants attacked with it in the autumn, and isolated them. I thought I would try what a mixture of petroleum and water would do for the pest, and accordingly mixed some at the rate of a wine-glassful of the oil to a gallon of water. It was applied to the affected plants with a syringe, and I am glad to say proved very effectual in destroying the rust. All the plants have been standing together during the summer, and I did not see any more of the rust until a few weeks ago, when it made its appearance on several plants. I at once had recourse to petroleum and water, applying with the syringe on two successive evenings, and I am pleased to say that the plants so treated are now quite clean, save the circular marks where the spores burst as they enlarged.

My object in penning this note is that it may be useful to some growers who are troubled with leaf rust, and want a simple remedy without delay, as it is evident from the way in which the fungus spreads that it requires dealing with promptly. I lay the plants on their sides when syringing them, as it is on the under sides of the leaves the rust appears in minute spots; but as the flowers are now opening sponging will have to be resorted to instead of syringing, to save them from injury. Warm water is best to use, as the petroleum mixes with it much better than with cold.—RICHARD MORSE, *Babington House Gardens, Bath.*

UNFORTUNATELY I had the Chrysanthemum rust introduced here in the spring, on plants bought from a well-known nurseryman. As I have been successful in combating it, I herewith state my mode of treatment, as it may be of service to other growers.

As some of the plants were badly affected on their arrival I promptly isolated them and tried different remedies on various plants—viz., sulphide of potassium, boiled sulphur and lime, and a weak mixture of paraffin, but the only one which proved effectual was the Wye Bordeaux mixture, as published in "The Chemistry of the Garden," by Cousins. This compound is made up of—

Copper sulphate (bluestone)	...	...	...	...	1 lb.
Lime	...	...	...	...	1 "
Agricultural treacle	...	...	...	...	1 "
Water	...	...	...	...	10 gals.

I found the treacle in this formula most important, as it made the mixture more adhesive, thus giving the leaves a better protective coating. The plants were frequently examined, and any affected leaves removed and burnt, and the plants sprayed with the mixture.

By the time they were ready for their flowering pots they were perfectly healthy and free from rust, and have not shown the slightest sign of it since. Perhaps some other grower who has been troubled with this pest and has succeeded in eradicating it will state his mode of treatment.—W. MEREDITH, *Dudbrooke Gardens, Brentwood.*

THE CONFERENCE ON THE CHRYSANTHEMUM RUST.

THAT the Chrysanthemum rust is attracting a great amount of attention this season from both private and trade growers received additional proof, if such were needed, on the evening of Tuesday last, the 11th inst., when a large and deeply interested audience assembled in the roomy St. Stephen's Hall in the Royal Aquarium, Westminster, to confer upon the aspects and potentialities of this comparatively new but dread disease. The executive of the National Chrysanthemum Society, under whose auspices the Conference was held, had arranged for two papers, one from Mr. P. Waterer of The Briars, Fawkhams, upon the practical aspects of the rust, and the other dealing with the scientific aspect of the question, from Mr. Geo. Massee, the celebrated mycologist of Kew.

The chair was taken at six o'clock by Mr. T. W. SANDERS, the Chairman of the Executive Committee, who, in opening the proceedings, said that he thought that the National Chrysanthemum Society had done excellent work in calling a meeting to consider this very important question, which vitally affected alike trade and private growers. As the hall in which they were must be vacated by eight o'clock, he would call at once upon

Mr. P. WATERER to read his paper. Mr. Waterer opened by thanking the Committee of the N.C.S. for the confidence they had reposed in him in committing to his charge the treatment of the question from a practical point of view. What he had to tell them

was the result of his own personal experience, but he would ask them to bear in mind that such experience could only be very limited, since it was yet only a short time ago that the "rust" first made its appearance upon Chrysanthemums. It was only indeed in the autumn of last year that attention was first called to it, and little had been seen or heard of it in this country until the present season. The "rust" was not to be confused with other ailments that attacked the Chrysanthemum. Golden Wedding and other varieties were liable to a peculiar disease which discoloured the leaves and ultimately caused collapse. There was another leaf blight that affected others, and this was similar to that to be seen on Plum trees. Madame Carnot and its sport often had their foliage diseased in a peculiar kind of way, whilst spotted and wrinkled leaves were to be seen on very many varieties, although this was brought about by the attacks of thrips and aphides.

All these affections were quite distinct from the "rust" which they had met to consider. This "rust" appeared as brown blotches, chiefly on the lower surface of the leaves, but occasionally on the upper, in which case the blotches on the two surfaces corresponded. These blotches or blisters burst in about a week after they first made their appearance, and disseminated millions of spores, which in the aggregate appeared like snuff upon the leaves. Individually the spores, as seen under the microscope, were not unlike Carrot seed. The affected leaves turned light green first of all, then brown, and finally perished. He found on his plants that there was rarely a spot below the first break, but passing upwards the spotting was to be seen as high as the bracts that surrounded the flower buds.

Some varieties were much more susceptible to the disease than others. Thus such sorts as Mrs. G. Carpenter, Australian Gold, Simplicity, and Graphic were the worst; whilst Edith Tabor, Ella Curtis, Matthew Hodson, and C. W. Richardson were nearly immune.

The worst case that he had seen was from Mr. Needs of Woking, on plants that had been raised from cuttings struck in December, planted out in April, and not "fed" at all. It was found that if diseased plants were cut down the young shoots thrown up from the bottom were free. The spores of the rust to be found on Plums were a little smaller, but otherwise much the same, and he had found almost identical "rust" on a Dock, and on other wild plants.

It had been stated that warm wet weather was favourable to the growth of the fungi, but some of the Plums in his garden were badly affected, and yet they had been dry as could be for weeks.

He had tried many things to kill the spores, including dusting with soot and tobacco powder, steeping the foliage in neat paraffin for nearly a week, besides spraying with mildew specifics. All had failed, however, and as a last resource he had induced the chemist of the Stock Exchange to make him up a mixture that was strong enough to kill his satanic majesty at a hundred yards, and even it had failed.

The only suggestion that he could make, therefore, was to give the rubbish heap a wide berth, for he thought the spores were introduced into the potting soil in this way, and to syringe with preventives.

Mr. G. MASSEE was next called upon to favour the company with the scientific aspects of the case. In his usual happy way, and with his customary aptness of simile and lucidity of description, Mr. Massee held his audience in rapt attention whilst he gave them the views of the scientist upon the matter. The fungus, he said, had been abused all round, and he felt inclined to take out a brief for it, for it had been perfectly just in doing what it had done, and, under the circumstances, it could not well have done less. It was the Chrysanthemum grower's own fault that the rust was in existence to-day. The keynote of the whole thing was "overcrowding." Of course he was aware that the trade grower would say that if Chrysanthemum growing was to be made to pay, he must keep his plants close together. It was difficult for him to answer this to their satisfaction, but he could only ask if it was not better to have one healthy plant than fifty unhealthy ones? The rust could not have come into existence as a Chrysanthemum pest if this overcrowding had not been practised.

Another point was that they had progressed in every branch of horticulture except one—they had forgotten to study the peculiarities of the life history of parasitic fungi, although it was done in every civilised country save Britain. He did not mean that every gardener should exhaustively take up the study of mycology, for there were, perhaps, too many mycologists already; it was only necessary to understand the important points in the life history of the fungi. This neglect, with the tendency to overcrowd, was entirely to blame. Our cultivators nowadays crowded their plants together in an extremely small area. If the crowding turned out well, all well and good; if not, then they blamed the rust. Pieces of many diseased plants had been

received at Kew, and they were invariably accompanied by the statement that "this plant was perfectly healthy until a few days ago," when this was entirely wrong, for the plant must have been ill for months.

The "black smut of Oats" was employed by the lecturer to illustrate the way in which many fungoid pests worked. The spores lay upon or in the ground, and entered the tissues of the Oat seed when the latter was germinating. It had been proved, indeed, that this was the only time in the history of the Oat plant that it could be infected with the smut. The plant was thus diseased from its infancy, for the fungus wanted to enjoy its own life for six or seven months, and only used the host plant to accomplish its own ends. The germinating spore gave rise to the mycelium, or the vegetative part of the fungus, and the mycelium in its turn gave rise to the spores or fruits. The spores being disseminated only left one victim to pass on to the next.

It was not important, however, to know when the plant was affected; the thing to do was to anticipate this condition, and to spray as a preventive. All the spraying in the world would not kill a disease, but "prevention was better than cure."

The gardener looked upon the whole thing as a mystery. If one plant was affected it was not a disease; it was only when whole batches of plants went off that he acknowledged that it might be a disease.

Nearly every kind of parasite had two kinds of spores, and the Chrysanthemum rust (*Puccinia Hieracii*) was a very simple plant indeed. The specific name "*Hieracii*" was given because the rust had first been found upon the Hawkweed (*Hieracium*). The uredo or summer spores were produced right through the spring and summer, and to the beginning of autumn. The snuff-coloured pustules were colonies of spores, the individual spore being round in shape. From five to six days after the entry of a uredospore into the tissue of a leaf the bundle of spores or pustules makes its appearance. The function of the uredo or summer spores was to enable the fungus to extend its geographical range, and this it did very speedily, for in addition to the crowding of the plants together the gardener kindly helped to distribute the spores by syringing. The spores from two or three pustules were driven all over the place with the syringe, and besides, the leaves being damp placed every spore under favourable conditions for germinating. Two hours sufficed for the germination of a uredospore.

At this time of the year, when the leaves begin to fade, they underwent a chemical change, and the mycelium that the infected plants contained underwent a change likewise. Thus the teleuto or winter spore was produced. This was different from the uredospore, because it did not germinate at once, but lay dormant until spring, when, with the warmer weather and suitable hosts, it germinated and produced mycelium, which in its turn bore uredospores, the life cycle thus being complete.

Chrysanthemums in houses were exposed to an additional danger, however, for some of the plants were carrying green leaves nearly the whole of the year, so that the production of the uredospores took place for the same length of time. He advised the careful destruction of all old leaves and stems, not according to the gardeners' idea of destruction, for he had often seen gardeners pick off an infected leaf, crumple it up in their hands, and throw it under the stage, thinking they had destroyed the pest when in reality they had only helped to distribute it.

Houses that had no plants in green leaf in them might be sprayed with a solution of sulphate of iron, and leaves in a dormant condition might even be treated thus without injury.

The resting spores must be destroyed if the fungus was to be got rid of. The life history of the "rust" was well known, and it did not produce perennial mycelium.

He really wondered why the "rust" had not appeared before, for it was one of our commonest parasitic fungi, since it was to be found on no less than ten genera and thirty species of British plants, whilst it was common in Europe and Australia, Asia and America. It was confined, however, to Compositæ. He urged the necessity of the cultivator being on his guard against infection from wild plants. In the case of the wild plants, however, it did not monopolise all, because the balance of Nature was not disturbed as it had been in the case of the Chrysanthemum. Also, out of doors many leaves were dry at the time of the rupturing of the pustules; many of the leaves were dry, and thus millions of the spores, not finding the conditions of moisture essential to their germination, perished. There was, moreover, no congestion amongst wild plants, and thus the parasite did not run riot among them as it was doing amongst their Chrysanthemums.

THE DISCUSSION.

A brisk discussion followed, in which a number of leading growers took part.

Mr. WELLS of Earlswood Nurseries, Redhill, Surrey, spoke of the urgent necessity there was to find something to kill the spores. He

first found the rust last year in the month of August, *Pride of Madford*, *Modesto*, and *Georgina Pitcher* being the varieties that were attacked the worst, and yet curiously enough a plant of *Georgina Pitcher* that was the worst afflicted of any, gave him the three best flowers of the variety he had. He had found syringing the plants with a tablespoonful of paraffin in 2 gallons of water an effectual remedy, and advised all to try it. He did not think that they had much to fear from the rust if syringing with this specific were systematically carried out.

Mr. H. J. JONES of Ryecroft Nursery, Lewisham, said that he did not know how to cure the "rust," for, like other growers in the vicinity of London, he had not been troubled with it.

Mr. NORMAN DAVIS of Framfield, Sussex, said that he thought the spores of the "rust" were carried from the roofs and gutters of the greenhouses, and distributed among the plants by means of the syringe. He thought also that the dry weather had been the chief means of aggravating the malady, for it had been scarcely heard of in Scotland, Wales, and the moister part of England. The disease of *Golden Wedding* was something quite distinct; he should describe it as collapse. He had never seen the rust until last year. He was of opinion that the continual crossing of varieties had weakened the constitution of the plants and rendered them liable to infection, whilst the fungus, after first attacking the weak constitutioned plants, had gathered strength to attack the stronger ones.

Mr. T. BEVAN of East Finchley, N., averred that neither he nor his friends in the North of London had seen the rust amongst their plants. It might, he thought, have been initially imported from France with some of the many cuttings obtained from thence.

Mr. H. CANNELL of Swanley said he had not been troubled by the rust. He thought climatal conditions had more to do with the spread of the pest than anything else, for he had found that the Potato-disease invariably came when certain conditions of moisture and temperature obtained.

In replying to the various points raised in the discussion Mr. Massee said that the distribution of the spores by syringing with rain water was exceedingly probable. Wind was also an important agent. The reason why the "rust" had taken their Chrysanthemums with such a rush was that it was a new host plant, for it was a most curious thing that in the East the wild Chrysanthemum is not affected by it. He advised them to have a care for their Dahlias, which were also Composites, for they might well be the next thing that the "rust" would select as victims. The fungus had its likes and dislikes, and just as he personally liked round Radishes better than long ones, so it probably preferred one variety to another. Spraying with sulphide of potassium was an excellent preventive, but sulphate of potassium (as stated in the *Journal of Horticulture*, page 268, last week), was of no use whatever. In conclusion, he advised them to get rid of the teleuto or resting spores, that being the one thing to remember.

On the motion of Mr. Geo. Gordon, Mr. P. Waterer and Mr. G. Massee received a hearty vote of thanks for their instructive lectures. Mr. R. Dean moved that the thanks of the meeting be accorded to the directors of the Royal Aquarium for their kindness in letting them have the use of the hall that evening. The thanks having been given, Mr. J. W. Wilkinson responded for the directors, saying that they were always glad to do what they could for the N.C.S. Mr. T. W. Sanders was also thanked for presiding, on a proposal by Mr. T. Bevan.

CHRYSANTHEMUMS IN THE NORTH.

THIS year has provided its usual crop of perplexities in bud formation. Even experienced growers from the beginning of August onwards were answering inquiries with the retort that they never remembered a season when the indications of bud formation were so erratic, and generally speaking the buds have been later than usual in showing. The low temperature, especially the extremely low night temperature during May, June, and July, retarded growth to such an extent as to cause considerable anxiety as to the quality of the blooms from buds formed considerably later than usual. However, if every season has its drawback, compensations are usually brought, sooner or later, setting matters straight again.

This season has been a case in point, and we may fairly congratulate ourselves on the finest September (with a similar promise for a good part of October) experienced for many years. Day by day we have been favoured with genial temperature accompanied by nearly continuous sunshine, with gratifying results now seen of fine plump buds giving promise of high quality, and cultivators are looking forward with greater confidence than what they could scarcely hope for at any earlier period of the season.

SEDGWICK HOUSE.

This estate is situated on the margin of the picturesque English Lake country and within sight of Morecambe Bay. The climate is evidently well adapted to general gardening, and to Chrysanthemum culture in particular, as is evidenced from year to year by the fine results obtained by Mr. Ireland, the genial chief of the gardens, which

are alike creditable to the gardener and his employer, J. Wakefield, Esq. About 500 plants for large blooms are grown, chiefly Japanese, and about 200 bush, including the freest blooming and most useful varieties of Japanese, Pompons, and single varieties. The chief advantage of enumerating varieties found to be promising, even without data, may be useful, inasmuch as varieties found to succeed under different systems of cultivation, and over a wide area, may be accepted as constant and reliable. But the data referring to time of propagation, stopping, and other points, if furnished along with notes of this description, will prove more valuable and give greater facilities for judging the possibilities of varieties under notice.

Mr. Ireland's routine culture is reduced to the simplest lines. His guiding principle is to propagate from the middle of January onwards as soon as well developed cuttings are procurable; carry the plants on to the first natural break, and take the first crown bud with the naturally late kinds. According to their degree in lateness they are stopped once, in March, April, or May, and the first crown secured. The earliest varieties, similar to Vivand Morel, are allowed to break naturally; with liberal treatment a second crown bud is formed after the first natural break, and this is the bud chosen in this class. In referring to the whole collection grown broadly on the lines indicated, although Mr. Ireland's name does not appear in the prize list, I have no hesitation in stating that his blooms generally are seldom surpassed in massiveness and colour.

The following varieties were noted as being the most promising:—Miss Ethel Addison, L'Isere, Miss W. H. Lees, Hairy Wonder, Vicomte Roger de Chezelles, In Memoriam, Mrs. Briscoe-Ironside, Triomphe de St. Laurent, Gen. Roberts, Yellow Madame Carnot, Lady Hanham, Ponderosum, Phœbus, W. H. Godfrey, Geo. Seward, Pride of Exmouth, Lady Oporto Tait, Lady Ridgway, Mdle. Lucie Faure, Mrs. F. A. Bevan, Mrs. E. G. Warren, N.C.S. Jubilee, Mrs. G. W. Palmer, Neva Teichman, Mephisto, Werther, Mrs. Blake, Mrs. N. Molyneux, Mary Molyneux, J. Chamberlain, Admiral Ito, Margery Kinder, Mrs. Mease, Ella Curtis, Mrs. J. Lewes, Snowdon, Mrs. Maling Grant, Mons. Chenon de Leche, Topaz Orientale, and Surpasse Amiral. The following varieties proved too late treated on the same lines as the foregoing—La Mouchette, Milano, Mrs. C. Orchard, Master H. Tucker, and Mrs. J. Shrimpton.

LEVENS HALL.

The grand old deer park of Levens Hall, the seat of Major Bagot, M.P., adjoins the Sedgwick estate. A walk through a magnificent Oak avenue a full mile in length brought us to "Levens," famous for its extensive gardens in topiary work. But as Chrysanthemums are the object of our journey we leave a description of venerable Levens for a future time, and pass on through the picturesque village of Heversham, made up principally of detached cottages. The inmates, determined to have a flower garden, have requisitioned the roadside frontage of their homes, and these extemporised gardens are ablaze with "Geraniums," Fuchsias, and Begonias in abundance, the latter thriving and blooming as freely as indigenous weeds.

DALLAM TOWERS.

The seat of H. Bromley Wilson, Esq., is about $1\frac{1}{2}$ mile beyond the village named, and is beautifully situated on the side of Morecambe Bay. On our way up to the kitchen gardens we passed through the "heronry," one of a very limited number of the resting places of the heron now to be found in the country. The exceptional and unclimbable height of the trees in which the nests are situated no doubt give the birds the necessary sense of security. Beech, Ash, and Elm, with massive shafts straight as an arrow towering up 70 to 80 feet without break or branch, are most impressive, even after the Oaks at Levens. Mr. Sarple, the head gardener, gave us his usual hearty welcome, and was congratulating himself that we were stranded for the night with him, owing to the train we had arranged to leave by having been stopped for the season; but necessity decreed otherwise. A messenger was despatched to requisition a fast trotter and trap to carry us to the main line junction, whilst another messenger was ordered to hurry up the preparations for the dispensing of a hospitality which would not be denied.

A hasty run through the houses, and then to our work between long lines of Chrysanthemums on the kitchen garden walks. Mr. Sarple's system of culture is the same as Mr. Ireland's, and gives promise of results at least equal to those of previous years. The best timed buds and the most promising were Philadelphia, L'Isere, Beauty of Teignmouth, Miss Dorothy Shea, Phœbus, Miss E. Addison, Primrose League, John Seward, Mrs. G. W. Palmer, Maggie Blenkinson, R. Jones, Olive Oclea, W. Wright, Maggie Shea, Julie Scaramanga, Lady Ridgway, Peter Blair, Simplicity, G. Seward, Sunstone, Lady Hanham, Mrs. J. Lewis, Emily Silsbury, Ella Curtis, Australian Gold, Potter Palmer, Edith Tabor, Exmouth Yellow, Hairy Wonder, Mrs. A. G. Hubbuck, Pride of Exmouth, Madame Carnot, Demay Taillandier, Graphic, Col. Chase, and Eva Knowles.—T. G. W.

WESTMINSTER SHOW.—OCTOBER 11TH, 12TH, AND 13TH.

THE second exhibition of the National Chrysanthemum Society was held at the Aquarium, and proved to be a very good show. The Japanese Chrysanthemums appeared to monopolise the place; they were very well shown. The incurved and other sections were almost conspicuous by their absence. The trade contributors made a grand display. It is a pity the exhibition should clash with the Drill Hall meeting, which must of necessity detract from the beauty of both shows. The competition for the vegetable classes instituted by Mr. Deverill, Banbury, brought out some doughty champions, but we regret to say we are unable to give a detailed report owing to the extreme pressure on our space.

There were only two competitors for a group of Chrysanthemums and foliage plants arranged for effect. Mr. J. Spink, Summit Road Nursery, Walthamstow, secured the premier prize with a group of excellent Chrysanthemums. The best varieties were Madame Gustave Henri, Mrs. J. Lewis, Mr. G. W. Palmer, Mary Molyneux, Australie, John Neville, Madame G. Bruant, and Ella Curtis. The plants were very dwarf and beautifully grown. Mr. W. Howe, gardener to Sir Henry Tate, Bart., was second, with a good group of taller plants.

In the class for twenty-four blooms, Japanese, not less than eighteen varieties, Mr. Jas. Brooks, gardener to J. W. Newman, Esq., Totteridge Park, Herts, was placed first with the following varieties:—Madame Gustave Henri, Oceana, Mrs. C. H. Payne, John Seward, Madame Ad. Moulin, Reine d'Angleterre, Vicomte Roger de Chezelles, Elthorne Beauty, Mutual Friend, Wm. Seward, Edith Tabor, Mrs. G. W. Palmer, Phœbus, Sunstone, Emily Silsbury, Ella Curtis, Master H. Tucker, and Australie. Mr. A. Shoemith, Claremont Nursery, Woking, was second with good blooms. Mr. R. Jones, gardener to C. A. Smith-Ryland, Esq., Barford Hill, Warwick, third.

In the class for twelve blooms, Japanese, distinct, Mr. J. Fulford, gardener to F. D. Lambert, Esq., Moor Hall, Cookham, secured first place with a capital stand. The blooms were Mrs. J. Shrimpton, M. Panckoucke, M. G. Biron, Ella Curtis, Mrs. J. Lewis, Dorothy Seward, Reine d'Angleterre, Iserette, Oceana, Elthorne Beauty, Mrs. F. Brewer, and a seedling. Mr. R. Jones was second, and Mr. J. Brooks third.

There were six competitors in the class for six blooms, distinct, Mr. J. Brooks again proving the victor with good examples of Elthorne Beauty, Mad. Gustave Henri, Mad. Ad. Moulin, Oceana, Ella Curtis, and Mrs. C. H. Payne. Mr. F. G. Foster, Brockhampton Nurseries, Havant, was second with good flowers of Oceana, W. Seward, and Mrs. J. Lewis. Mr. B. Nash, gardener to F. A. Wellesley, Esq., Honey Pots, Woking, third. For six Japanese blooms, one variety, Mr. R. Gladwell, gardener to S. Smith, Esq., South Norwood, was first in a good competition with Mad. G. Bruant, Mr. Jas. Brooks was second with Mad. Gustav Henri, and Mr. B. Nash third with good blooms of Edith Tabor.

There were four competitors for six blooms of incurved varieties. Mr. R. Bassil, gardener to D. H. Evans, Esq., Shooters Hill House, Pangbourne, was placed first with good blooms of Mons. R. Bahuant, Baron Hirsch, and D. B. Crane. Mr. T. Robinson, gardener to W. Lawrence, Esq., Elsfeld House, Hollingbourne, was second with good blooms of D. B. Crane, Mons. R. Bahuant, and Duchess of Fife; and Mr. R. Jones third. There was only one competitor for twelve bunches of Pompons. Mr. S. T. Cook, gardener to A. N. Stephens, Esq., Holmbush, Hendon, was awarded second for a moderate stand. There were five competitors for six bunches, distinct. Mr. T. L. Turk, gardener to T. Boney, Esq., Highgate, was placed first with a capital exhibit. Miss R. Debenham, St. Albans, second; Mr. S. T. Cook third.

The class for two vases of Chrysanthemums with any foliage proved to be a very attractive one. Mr. W. Mease, gardener to A. Tate, Esq., Leatherhead, was well ahead with two very handsome vases, Mr. Jas. Brooks taking second place. Mr. Norman Davis, Frankfield, Sussex, was third. There was a fine display for a vase of Chrysanthemums of the Pompon type, Mr. W. Green, jun., Harold Wood Nurseries, securing the first prize with a capital arrangement. Mr. T. L. Turk was second with a very large arrangement; and Mr. D. M. Hayler, gardener to Mrs. Langworthy, Maidenhead, third. The competition in the amateurs' classes was keen; the blooms were almost equal to those in the open classes.

The miscellaneous groups were very numerous, and contributed materially to the show. Mr. H. J. Jones, Ryecroft Nursery, Lewisham, contributed a magnificent group, arranged in his well-known style. Rayonante, a grand bloom after the style of Lilian B. Bird; Soleil d'Octobre, Madame L. Remy, M. Fatzer, Mrs. L. Humphrey, Eastman Bell, a red sport from President Borel; Lili Boutroy, a new seedling; Cybele, a white reflexed; Madame Leone, Feyerick, and Golden Queen of the Earlies, a crimson sport from Madame Marie Masse, were the most notable of the new varieties. The whole group was tastefully arranged with Crotons, Palms, and Ferns. Mr. W. Wells, Earlswood Nurseries, exhibited a group of plants and cut flowers. The most conspicuous varieties were Le Grand Dragon, Melusine, Soleil d'Octobre, Madame Gustave Henri, Edith Tabor, and Pride of Stoke Hill, the group being edged with a wreath of early flowering varieties.

Messrs. H. Cannell & Sons, Swanley, had a very tasteful group of Cannas, interspersed with flowering spikes of Polygonum molle, the whole making a very bright and attractive group. Mr. W. J. Godfrey, Exmouth, contributed a fine exhibit of cut blooms, all up to exhibition form. The best were President Bevan, General Paque, Werther, Madam G. Seince, Le Grand Dragon, Lady Ellen Clarke, Autumn Glory, and Reginald Godfrey, a very rich chestnut; also a collection of perpetual Carnations in twenty varieties, the majority being seedlings of Mr. Godfrey's raising. Mr. J. R. Box, West Wickham, exhibited a grand

collection of Begonia blooms, both double and single varieties, cut from the open ground.

Mr. W. T. Empson, gardener to Mrs. Wingfield, Amphil, exhibited a pretty group of his decorative Chrysanthemum Mrs. Wingfield. It is a dwarf pink variety, and very floriferous. Messrs. H. Cannell also contributed a table of specimen Chrysanthemum blooms. The best varieties were W. Towers, Lady Ridgeway, Madame Liger Ligneau, and Kathleen Rogers. Messrs. W. Cutbush & Sons, Highbgate, exhibited a very good display of Apples, Pears, gigantic Onions and Tomatoes, with a collection of winter-flowering Carnations and well-berried Pernettyas.

Mr. H. Deverill, Banbury, had a very extensive display of hardy flowers, comprising Asters, Gladioli, Chrysanthemums, Gaillardias, Rudbeckias, Tritomas, together with a general display of autumn flowers. Mr. H. Berwick, Sidmouth, staged a good collection of fruits, which were very well coloured, a truly grand display. Messrs. S. Spooner and Sons, Hounslow Nurseries, also staged an attractive exhibit of Apples and Pears. Mr. E. Beckett, gardener to Lord Aldenham, staged a very attractive collection of Ricinus varieties. Mr. S. Mortimer somewhat paled the display of Chrysanthemums by staging a very fine exhibit of Cactus and Show Dahlias. Messrs. J. Laing & Sons, Forest Hill, sent some splendid fruit, and T. S. Ware, Ltd., Tottenham, Cactus Dahlias.

JUDGING BY POINTS.

At the recent Show of the Royal Caledonian Horticultural Society, held in Edinburgh, a new departure in judging was introduced in having the premier prize for fruit—a decorative dessert table of sixteen dishes of fruit—judged by points, the several points awarded to each item to be shown on cards on the winning tables.

This system, though I believe common in the South, was new to us in the North, and exhibitors and others interested looked forward to the competition with much interest, and with the view of gaining useful information therefrom; but the judges in this case adopted a plan which I venture to assert is new to both sides of the Tweed, and as it is the first time we have seen it carried out in the North I hope it may be the last. The directions of the schedule were "that each dish of fruit was to receive up to a maximum of so many points—such as ten for Pine Apples, nine for Grapes, and so on, the number of points awarded to each item to be shown on the winning tables."

Had this rule been followed, even with the points they gave to the several kinds of fruit, and which no one could find much fault with, the second prize table should have been first with 121½ points, and the first prize one second with 118½. The judges' decision was 70½ to the first prize table, and 64 to the second prize one. They arrived at this conclusion by "slumping" all the dishes of the same kind of fruit on each table, and allowing them no more than the number of points which should have been awarded to each separate dish.

For instance, the second prize table contained two extra fine dishes of Peaches, to which the judges gave 7 points, whereas it should have been 14. The corresponding dishes in the first prize table were an inferior dish of Peaches, awarded 4½ points, a poor dish of Figs awarded 5 points, or a total of 9½ against 7 for the two fine dishes of Peaches, which should have been 14. No wonder this decision was subjected to so much criticism, or that the exhibitor who was awarded the second prize was not the quietest man in the Waverley market that day.

It is to be hoped that the Council of the Royal Caledonian will be in no way prejudiced against point judging, though this, their first venture in that direction, has met with such curious misjudgment. The system, when properly carried out, is the only fair and true way to arrive at a correct conclusion in judging collections of either fruit, vegetables, or flowers; besides, it has an educational influence for those who are interested, especially to young gardeners, and I think horticultural societies would be taking a step in the right direction if they made point judging in the more important items compulsory, the results to be displayed on the winning exhibits. I should strongly recommend this for the consideration of the Royal Caledonian in more things than the decorative dessert tables, such as the six and the four bunches of Grapes and the collections of vegetables.

I understand that the idea of a decorative dessert table originated with the advanced horticulturists of Shrewsbury, and that the Edinburgh stipulations are exactly the same as those of the southern show. It would be of interest if you, Mr. Editor, would refresh our memories with the total points gained during this and last year at Shrewsbury. If pointed on the same standard by competent men a fair idea of the quality of fruit exhibited is gained by numbers of gardeners who are never privileged to see it for themselves at that greatest of all our horticultural exhibitions—Shrewsbury.—EXHIBITOR.

[Assuming our correspondent is correct in his statement, the Edinburgh judges seem to have curiously overlooked the terms of the schedule, and had the exhibitor who was awarded the second prize entered a formal protest on the ground indicated we suspect it would have been sustained. As our correspondent leaves the matter, the table with 64 points ought to have had 71, that is if the second dish of Peaches was equal to the first. It is rare that duplicate dishes point equal, and "An Exhibitor" does not show how the higher figures of 121½ and 118½ were determined, but shows that the second table ought to have been first by half a point. At Shrewsbury in 1897 the points awarded for three decorated dessert tables were 105½, 104½, and 99½; during the present year they were 124½, 119, and 100 respectively. Messrs. A. F. Barron and Owen Thomas were the judges in 1897, and Messrs. Owen Thomas and J. Wright at this year's show.]

THE CRYSTAL PALACE SHOW.

DESSERT APPLES.

WHILST the samples staged in all the dessert Apple classes at the Crystal Palace recently were on the whole of excellent size, and specially suited for the table, I could but feel that the huge fruits of Gascoyne's Scarlet were out of place in the dessert section, for they were equal to big Bismarcks, Emperor Alexanders, or Lord Derbys. Now the variety, also Roundway Magnum Bonum, may have considerable table excellence, and look very fine dished up, but it is so obvious that these huge fruits are unfitted for the dessert. An able gardener recently said, "My employer does not care at all for big fruits, indeed will not have them at the table. He says:—

"I cannot eat a big Apple or Pear at once after dining, and I cannot ask anyone at table to take a piece because it would not be decent." Certainly that is an objection that forcibly applies to such samples as Gascoyne's Scarlet presented at the Palace, and I think it would be wise to have it relegated to the kitchen section. Let one compare with it such medium-sized and perfectly formed samples as were seen in Mabbott's Pearmain, Worcester Pearmain, Cox's Orange Pippin, King of the Pippins, Fearn's Pippin, Adam's Pearmain, and some other typical dessert samples, and the incongruity of including such a big-fruited variety in the dessert list is apparent. Mother Apple, Scarlet Nonpareil, Ribston Pippin, Blenheim Pippin, and Claygate Pearmain, were capital samples, and all amply large enough for the dessert.

EXHIBITION QUALITY IN GRAPES.

Passing the tables on which were staged the bunches in competition in the Muscat of Alexandria class at the Crystal Palace on the first day of the recent fruit show, I was attracted by a discussion, in which several friends and good Grape growers took part, as to the merits of the judging in the class, as well as in that of the Gros Maroc and Gros Colman class. The point in dispute in each case was whether high finish should not obtain precedence, when associated with other merits, over heavier bunches.

Those who were members of the R.H.S. Judging Committee remember how thoroughly this point was threshed out when the rules of judging were drafted, and this was the result, as found in the code under the head of Grapes (par. 52), and to which so few judges seem to give heed. "The bunches should be of uniform size, of perfect shape, properly thinned, so that every berry has had room to develop, the bunch when cut remaining firm and compact. Large bunches, with berries of varying sizes, are less meritorious than smaller bunches with berries of uniform size. The berries should be large for the variety, and carry a dense bloom. Loose bunches, ill-coloured berries, rubbing, shanking, spot, insect marks, and mildew are grave defects."

Now, the selected bunches of Muscat of Alexandria were large and good, but they had the demerit of having the outer berries fairly coloured and the inner ones comparatively green, so that there were in the bunches two distinct shades of colour. One lot, if not two, had smaller bunches, perhaps 1½ lb. less in weight; but not only were they perfect in form, but every berry was of absolutely even size and colour, being of perfect finish and devoid of speck or stain. On the other hand, the larger bunches had numerous berries stained or spotted.

In the Gros Maroc class bunches of the most perfect finish conceivable, black beneath and carrying a rich bloom, were placed below larger bunches lacking finish and complete colour and bloom. Now, the point to be determined is which—with judges of the Royal Horticultural Society, their decisions being governed by the Society's own code of rules—should have weight—mere size of bunch, or the superb finish, possibly found in bunches of lesser size? No doubt great weight is attached by judges in Grape judging to size of bunch. To produce such huge bunches are held to be great triumphs of culture. That may be so, if the berries exhibit all the highest attributes of the variety.

But, after all, mere size of bunch is too much determined by numbers of them on a Vine or rod, and whilst bunches of 4 lbs. weight may be few those of half the weight may be many. Then again, which bunches are for the table the most useful? In nine cases out of ten big bunches are cut up in the pantry to three or four ere sent to table, whilst smaller, because reasonable, bunches go intact. Thus a big cluster hangs about the sideboard until the Grapes are stale, whilst smaller ones are cut fresh every day. Personally I favour high finish over mere size or weight of bunch.—A. D.

CYPHOMANDRA BETACEA.—The fruiting of the "Tree Tomato," as this plant is popularly called, is almost an annual occurrence at Kew; but it has never been seen to such advantage as at the present time. Until recently it was either grown in pots or planted in a border in the cool portion of the winter garden; in the former case the root run was not sufficient to insure the plant doing itself justice, and in the latter case the temperature was not high enough to finish the fruits before winter fogs set in, which cause the fruits to drop. When the Mexican house was planted in May, 1897, a small plant 2 feet high was planted in a border of loam, and that it is enjoying its position and the intermediate temperature can be seen at a glance. The plant has now a main stem 6½ feet high with a bushy head, the total height exceeding 10 feet, and the width 8 feet. In May it commenced flowering, and set its fruits freely; now there are upwards of 200 fruits in various stages of ripeness, the ripe ones being scarlet in colour, and the largest about the size of a hen's egg of medium size. Anyone who has an intermediate house at his disposal would do well to give this a trial, as he would be sure to be pleased with it. It can be fruited in a dwarfed state by using the knife-freely in February.—D.

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

ABOUT 130 members and friends of the "United" met at the Holborn Restaurant on the evening of Wednesday, the 5th inst., on the occasion of the Society's twelfth anniversary dinner. Mr. Geo. Bunyard, V.M.H., occupied the chair, and with him were Messrs. N. N. Sherwood, Jas. H. Veitch, H. Laing, H. B. May, Jas. Hudson, S. T. Wright, Geo. Wythes, Geo. Gordon, J. Heal, W. Y. Baker, W. P. Thompson, and A. Outram, amongst other gentlemen well known in horticultural circles.

Dinner was laid for half-past six, and a lengthy toast list was provided. After the admirably served repast had been well discussed, conversation "across the walnuts and wine" became general. The Chairman rose to propose the customary loyal toasts of the Queen, and the Prince and Princess of Wales and the rest of the Royal Family. These having been right loyally received, the Chairman proceeded to give the toast of the evening, "The United Horticultural Benefit and Provident Society," with which he coupled the name of the Society's Hon. Treasurer, Mr. Jas. Hudson. Mr. Bunyard briefly reviewed some of the salient points in the constitution and history of the Society, saying that it now had 738 members, sixty-four of whom had joined since the commencement of the year. He reminded his audience that the gardener's life was often a very hard one. He had to work early and late, and although he was often treated by his employers as a friend and equal, yet his pay was but small. The "United" was doing a most excellent work amongst gardeners, and was filling a gap. He could not find any flaw in its management. The funds were properly invested, and the whole thing was in order from first to last. Those who put their money into it would find it a good investment, for the Society gave 3 per cent. interest, whereas the Queen only gave 2½. With the benevolent branches the Institution contained everything that was good, and he advised every gardener to join it. The toast was enthusiastically received.

In replying, Mr. Hudson said that they were endeavouring to sow the seeds of frugality and self reliance. He hoped that all gardeners would take Mr. Bunyard's advice to heart and join them. The Society's expenses were kept down as low as possible, the officers, with the exception of the Secretary, Mr. Collins, to whom a nominal allowance was made, performed their duties gratuitously, and the average of funds invested per member would challenge comparison with any society; indeed, he doubted if any other society could show such a high average. He hoped that they would have before long a membership of 1000, and £20,000 invested.

The toast of "The Honorary and Life Members" was given by Mr. Nathan Cole, who expressed his satisfaction at the way in which the Society was supported by the nursery and seed trade. He urged all gardeners to bring the Convalescent Fund to the notice of their lady employers, for the example set by Mrs. Harry Veitch, whose charitable and kind heart all gardeners had reason to bless, was worthy of emulation. Mr. James H. Veitch responded in a few well chosen words. Mr. T. Winter gave the health of "The Visitors," associating therewith the name of Mr. S. T. Wright, who, in replying, paid a high tribute to the management of the Institution they had met to honour.

Mr. Geo. Bunyard proposed, and Mr. W. Roupell supported, the toast of "Kindred Associations." Special mention was made of the Royal Gardeners' Orphan Fund and the Gardeners' Royal Benevolent Institution, the name of Mr. G. J. Ingram, the Secretary of the latter Institution, being coupled with the toast. Mr. Ingram said that although these Institutions were pleased with sympathy they wanted practical help, for sympathy did not cost much. He hoped that the "United" would continue to prosper, and would do even more good in the future than it had done in the past.

Mr. R. Dean toasted "The Horticultural Press" in an eloquent speech. Mr. Geo. Gordon, in his reply, touched upon the necessity there was of keeping the merits of the Society before the public.

Mr. W. Collins spoke of the obligation they were under to the donors of the fruit and flowers that had been placed on the tables, making special mention of Messrs. H. Cannell & Sons and Messrs. B. S. Williams & Son. Mr. J. McKerehar responded.

The following donations were announced by the Chairman:—Mr. Garcia, 1 guinea; Mr. Watkins, 1 guinea; Mr. Geo. Munro, 1 guinea; Mr. Leopold de Rothschild, 1 guinea; Mr. S. T. Wright, 10s. 6d.; Mr. R. Dean, 10s. 6d.; Mr. Jas. H. Veitch, 3 guineas; Mr. Cox, 1 guinea; Mr. R. Pinches, 10s. 6d.; and Anonymous, 1 guinea. Mr. Bunyard also proposed his son as an ordinary member at a guinea a year.

Mr. H. B. May proposed "The Health of the Chairman," who, after a suitable reply, nominated Mr. W. Y. Baker as Chairman for next year's dinner.

Vocal and instrumental music was discoursed at intervals through the evening by the Lamb Bros. Glee Club of Maidstone.

The quarterly meeting of the above Society was held on Monday evening at the Caledonian Hotel, Adelphi, Strand. Mr. Wm. Taylor occupied the chair. Five new members were elected and one nominated. The principal business of the evening was respecting the oldest member in the Society (No. 4 in the register), who has reached the age of seventy, and according to Rule 17 is now entitled to receive an allowance from the benevolent fund. This member was one of the originators of the Society, has been in office the whole time, and has never drawn any sick pay. Taking all these things into consideration, the Committee decided to allow him 8s. per week from the benevolent fund for the remainder of his life. There is a balance of nearly £80 standing to this member's credit in the

ledger, from which he asked to be allowed to withdraw £6, and leave the balance to be drawn from as required. A vote of thanks for his past services was accorded him. Two other members are receiving 5s. per week and one 4s. 6d. per week from the benevolent fund in continuation of sick pay, they having been unable to work for over twelve months.

THE YOUNG GARDENERS' DOMAIN.

BEGONIA GLOIRE DE LORRAINE.

A BEAUTIFUL plant, worthy of extensive cultivation, is this winter flowering Begonia. It will be in bloom with us when this note appears in print. Like several others of the genus it requires stove treatment, and the method of cultivation practised successfully by us is as follows:—When the plants pass out of flower they are gradually brought to a state of rest by a reduction in the supply of water and the temperature; this lasts six or eight weeks, when the plants are again placed in heat to produce cuttings. These are inserted in the usual manner round the sides of 4-inch pots, and placed singly when rooted into 2-inch pots.

An ideal place to grow this Begonia is in the Cucumber house. Our plants have been in such a position since June, and are now quite bushes, 12 to 15 inches in height and the same in diameter, in 5-inch pots. The final potting takes place early in June, usually into 5-inch pots, the compost used being about equal parts of very fibrous peat and loam with plenty of sand added and a little artificial manure. The plants may be supported by placing one stake in the centre of each pot and looping the growths to it loosely as necessary. The shoots should be kept regularly pinched to insure a perfect specimen, and all buds removed till the time the plants are required to flower, by which means they may be utilised successively.

This Begonia was a mass of bloom for fully four months last year, from October onwards, and I would recommend anyone not in possession of it to procure a few plants, as it is one of those gems which help to gladden our eyes during the dull winter months; the colour of the flowers is of a pleasing delicate rose. One more point in connection with it is its adaptability for use as a vase plant. With due care it will last ten or twelve days in good condition, after which time it may be given a brisk shake to remove loose flowers, replaced in the stove and well syringed, and in about a fortnight will again be fit for decorative purposes.—T. P.

CULTURE OF HYDRANGEAS.

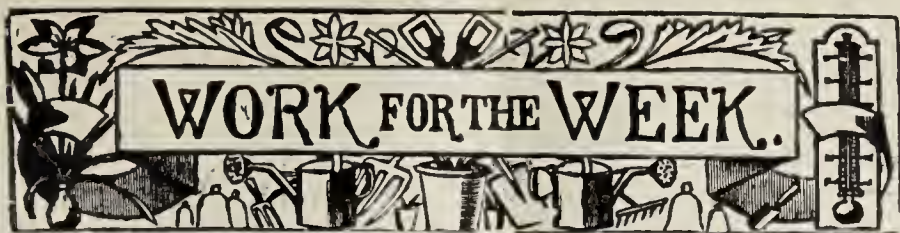
HYDRANGEAS are plants that are exceedingly useful for conservatory or greenhouse decoration, and they may be successfully grown by amateurs as well as professionals. Although in the south of England they are quite hardy, in the north they will require the shelter of a cold house; in fact, it is best if possible to treat them always as half-hardy plants, and protect them from frost. The Hydrangea is a plant which is grown very extensively for market, and finds a ready sale, especially with lovers of window plants.

The best way to propagate Hydrangeas is from cuttings of half-ripened wood, which will root freely in a propagating pit. If such is not available, they will do just as well in a manure heated frame. The cuttings should be covered with a bell-glass to keep them close while airing the frame. The time of insertion of the cuttings is not of great importance, but if they are propagated in April they will require a small shift about August, while inserted two or three months later they will do well in the small pots through the winter.

The compost I have seen used is one composed of one-half good loam and the other half leaf mould, peat, and sharp sand in about equal proportions. The cuttings may be rooted several in a pot, and placed into small 60's when necessary, and if a shift is needful again the first year into 48's. After potting the plants ought to be kept close for a time until they begin to take hold of the soil, when they should be gradually given light and air, and afterwards removed outside into the sunshine. If they are plunged in ashes they will benefit by it. The points should be removed when the shoots are a few inches long to encourage them to break freely, but they must not be cut back too hard, as it is on the wood made in one season that they bloom the next. If the plants are wintered in a cool house, by the beginning of April they will show flower. They should then be given a size larger pots, using the same soil as before recommended, enriched with a little bonemeal or artificial manure. When the pots are well filled with roots liquid manure may be applied, to give substance to the foliage and flowers. Soot water occasionally will also improve them. The growths which the plant throws from the bottom must be retained for next year's flowering, after thinning out the weakest.

The flowers ought to be removed as soon as they have faded, to give the young shoots a chance of developing. I have seen very useful little plants with large heads of flower obtained by cutting off some of the growths as soon as they show flower, and rooting them quickly in a brisk bottom heat. In this form they will make charming plants for furnishing, and will be found to adapt themselves in many ways where small decorative plants are required.

The plants will winter well in their summer pots, unless large specimens are required as quickly as possible, when they may be potted again after flowering. Light and air are the chief agents in the successful culture of Hydrangeas (like many other plants), and they should be given as much as possible when the plants are ripening their wood, as the results are never so satisfactory if the growths are sappy. The syringe should also be used freely, and a liberal supply of water at all times given at the roots.—S. S.



HARDY FRUIT GARDEN.

Gathering Fruit.—Apples and Pears still remaining on the trees ought now to be gathered without delay. An unusually sharp frost or boisterous gale may cause the fruit to fall wholesale, damaging it to such an extent that it will be useless for keeping any length of time. The fruit is in many cases below the average size, and is late in maturing owing to the lack of moisture. After this date, however, the fruit cannot enlarge, owing to the decline in temperature and cessation of growth.

In gathering, carefully lift each fruit to a horizontal position, and it will readily detach itself from the spur. Place in baskets all the best fruits, and convey to the fruit store, where they should be laid in single layers on shelves, in boxes or drawers. Pears for early ripening must have a warm dry store. The later varieties may be kept cooler at first. Apples require a cool moist atmosphere with supplies of fresh air, so that the fruit will remain firm.

Ripe late Plums may be gathered and stored for use on dry clean paper in a cool room. They are no worse for keeping if the fruits shrivel a little.

Examining Fruit.—Now that cooler weather prevails fruit will, upon the whole, keep in good condition for a longer period. It is, however, essential that Apples and Pears wherever stored be looked over occasionally, so that all fruits affected with decay can be at once removed. Inspection may be quickly made when the fruits are stored in single layers, and less moving and handling are necessary than when stored deeper. Bruised and damaged fruit should be kept to itself, and used as soon as possible. Removing such examples from the structure without delay where choice specimens are stored is undoubtedly the best for the proper preservation of perfect fruits.

Preparing Soil for Planting Fruit Trees.—Considerable advantage accrues from thorough preparation of the ground prior to planting fruit trees. The soil requires to be well broken up to a depth of 2 feet at least, in order that the whole of the ground surrounding the trees or bushes, as well as that which the roots occupy, may be of uniform quality and depth. Light and dry soil can be prepared deeper. Bastard trenching is probably the best method of preparation. By this plan the soil is moved to the proper depth, but kept in its original position, which is certainly best when the surface is fertile and the subsoil not.

A moderate amount of manure may be applied to poor ground, but it must be well decomposed, and thoroughly incorporated with the soil. This is important for Apples, Pears, and stone fruits. Too liberal manuring will cause strong rank growth. Soil that has been liberally prepared for a previous crop is frequently more suitable than recently manured ground, and should upon the whole be preferred for the fruits mentioned above.

Gooseberries, Currants, and Raspberries demand a good depth of fairly rich soil, and where these are to be planted more generous manuring may be practised. They do not succeed satisfactorily in poor soil, in which they do not readily make a free and vigorous start. In preparing the soil clear out deep-rooting weeds, and remove suckers which may be growing. Bury all weeds which will readily decompose in or upon the bottom spit. Whatever the character of the subsoil break it up well. This will not only improve it, but permit the escape of superfluous water. If it does not do so, then drainage is necessary, and means must be taken to effect this, as fruit trees do not like a wet and cold subsoil.

Drainage.—Should the soil need draining this must be carried out before digging or trenching. Most soils are naturally drained, and such are undoubtedly the best for fruit trees. In situations that are not so favoured, and it is requisite to plant fruit trees, it is desirable that water collecting in the subsoil within reach of the roots and not passing freely away be removed. The most approved method of effecting this is by pipe drainage, though trees are sometimes planted on raised mounds so as to grow out of the reach of the damp subsoil. A complete system of drainage is, however, better. Cylinder tiles 2 inches in diameter should be laid in rows 3 feet deep, the rows 15 to 18 feet apart. They must have a fall, and lead diagonally into main rows of pipes 4 inches in diameter. The latter require to be arranged at the lower level of the ground to be drained, and have an outlet at the lowest point of all.

Thinning and Regulating Trees.—The branches of any fruit tree where too crowded may be removed now. One advantage of carrying out the work at the present time is that a better judgment may be formed as to the extent of the removals necessary to admit light and air abundantly, because of the foliage being present. Dead wood is also easily seen. The reduction of spurs, where clusters of them on wall trees are much elongated, may be effected now. Give attention to young trees especially, so that the most suitable branches for forming the foundation of the trees may be retained, and the others cut out or shortened.

FRUIT FORCING.

Vines.—*Earliest Vines in Pots.*—We would again urge the advisability of taking the very early supply of sweet, thin-skinned Grapes from Vines in pots in preference to starting permanently planted Vines at an early

period. Well managed Vines in pots produce Grapes that are quite equal in quality, if not in size, to those borne by Vines planted in borders, and often better, from the conditions of culture being more favourable. This is the case where the Vines are given the benefit of bottom heat, but to insure success the canes must be sufficiently strong, thoroughly ripened, and duly rested. As a start must be made the 1st of November to have ripe Grapes in March or early in April, the materials for affording bottom heat—stable litter and two-thirds leaves—should be in course of preparation. The heat about the pots must not exceed 65° at the start, bringing up the fermenting materials by degrees, so as to augment the temperature to 70° to 75° about them when the Vines are in leaf. Any Vines in pots required for starting later should be placed under cover, an open shed with a north aspect being suitable, but the pots must be protected with dry hay or straw, and mice and rats kept down, or the animals may render the Vines useless by girdling them at the collar.

Vines for Starting in December.—The pruning will have been performed; if not, it must not be further delayed, as early and complete rest for a few weeks contributes to an even break, the Vines responding to the heat and genial moisture better than when rest is not given. Pruning to two buds is usually followed by a good show of fruit, but if the bunches have not been as large as desired in previous years the shoots may be left a little longer, pruning to the plumpest bud nearest the base. What, however, is gained in size of bunch is generally lost in compactness thereof, unevenness of berries, and bad finish. Bunches of 1 to 2 lbs. weight are quite large enough for early Grapes. Remove any loose bark, but avoid very close peeling, carefully keeping from injury the live bark, and wash them with a solution of caustic soda and commercial potash 1 oz. each to a gallon of water, applying the solution at a temperature of 130° with a brush. If there has been any fungoid pests, dress the rods at starting, always when the buds are quite dormant, with a sulphate of iron wash, 1 lb. to 1½ gallon of water. Thoroughly cleanse the woodwork of the house, and limewash the walls. Remove the surface soil down to the roots, if not to the whole extent of the border, for a distance of 3 or 4 feet from the stems, and supply fresh loam so as to encourage new roots as well as an extension of those from the collar, adding a pint of steamed bonemeal, a quart of soot, and half a gallon of wood ashes to each 3 bushels of loam. Keep the house cool, airy, and dry until the time arrives for starting, and the border moderately moist, not wet.

Houses of Ripe Grapes.—Thin-skinned Grapes, such as Hamburgh and Muscat of Alexandria, are more susceptible to damp, cold, and climatic changes than the thick-skinned, such as Alicante and Gros Colman. Hamburghs keep well in a temperature of about 45°, but Muscat of Alexandria requires a heat of 50° for good keeping, and there must not be any deficiency of moisture at the roots, otherwise the Grapes will shrivel. Remove all dead and decayed leaves from the Vines where ripe Grapes are hanging, and look over the bunches for any shanked or decayed berries and burn them. Lose no opportunity of giving air when the days are fine, turning on the heat so as to cause a gentle warmth in the pipes, not so much to dry the atmosphere as to insure a circulation of air, which is the best safeguard against damp. Turn off the heat at midday or soon after, so as to allow the pipes to cool, but not so as to lower the temperature below the night minimum.

When the heat falls too low, and the temperature is then raised, moisture condenses on the berries, and there decomposes the skin, besides insuring the germination of micro-organisms and their entrance into the epidermal tissues, and set up speedy decay. The harm is not in a low night temperature, but in not giving air soon enough, so that the heat, whether from the hot-water or the sun, expands the atmosphere, and its moisture is condensed on the cooler surfaces of the berries as well as on the glass. In dull weather, especially during fog, it will be necessary to keep a genial warmth in the pipes, but the house closed, in which case the moisture will be condensed on the glass instead of the Grapes.

Late Grapes.—The thick-skinned varieties require time to mature the fruit after apparently ripe. Alicante improves nothing whatever in keeping, and is at its best so soon as well ripened. The same may be said of Gros Maroc, an excellent variety, and not indifferent in quality when well done. These as preludes to Gros Colman are very desirable, as they retain the colour well. Alnwick Seedling has the property of keeping well, being excellent in quality, and even rivals Alicante in appearance. Gros Colman has the all-important property of magnificence, and that goes a long way, even with table Grapes, and is indispensable for market. It is, perhaps, the easiest grown of all Grapes; the bunches are always compact, the berries set well, they swell to a good size, and when the Vines are not overfed, or, on the other hand, overcropped, they colour first-rate. It is far the best in quality when grown on the old red sandstone formation, though it does well on the alluvial silts, as do all the coarse vinous Grapes.

The high quality Grapes with thick skins are not in vogue. Mrs. Pince is one of the best, difficult to finish, and hard to keep colour in when ripe. It will turn red and shrivel, and keep longer than any other Grape. West's St. Peter's has gone out of favour, still it has excellent properties, above all, a rich vinous flavour; but it has not a chance where appearance at table is the chief merit in a Grape. Lady Downe's, though keeping up to June in admirable condition, and always excellent in quality, has also gone down in the scale of estimation, as half the appearance and half the weight of fruit, as of Gros Colman, spoils its character for either table or market purposes. There must be no deficiency of moisture in the border, and the atmosphere must not be stagnant, but have enough warmth, with air, to keep it in motion, the temperature not being allowed to fall below 50° until the leaves fall.

Young Vines.—These, and any that are not yet hard and brown in the wood, should have a temperature of 60° to 65°, a little air con-

stantly, and the heat from the sun may run up to 85° or 90°, only let there be enough air to insure a circulation. The laterals should be reduced by degrees, bringing them down to the principal leaves, and when there is no danger of starting these, the shoots or canes may be shortened to about two leaves above the pruning buds. This will cause the latter to plump, and by keeping the house rather warm by day with ventilation, the Vines will go to rest.

THE BEE-KEEPER.

UTILISING OLD COMBS.

WHAT should be done with old combs that are black with age? They are in bar-framed hives, and are at present full of honey—M. D.

[There are various ways of utilising old combs that are black with age but full of honey. Were they from skeps or boxes, we should recommend "M. D." to extract the honey and melt the combs down for wax; but as they are from frame hives, we presume there are sufficient stores left in them for the bees to winter on to allow for the removal of the old combs. If the combs are not clogged with pollen, but are filled with honey which is neatly sealed over, they may be placed in a box or dry cupboard as a reserve for feeding the bees in the spring, for which purpose there is nothing better than a few frames of natural stores. Although the combs are black, they may be clean and sweet, and when in this condition they are not detrimental to the future welfare of the bees, and if given to a strong colony of bees at any time, it will be found that the stores will be removed as required by them. The combs will then be cleaned by the workers in readiness for the queen to lay eggs, and in due course will be filled with brood.]

If the honey is not required for feeding purposes, and it is in good condition, it may be extracted in the usual manner, and if the comb is in good condition it can be stored as advised in previous notes. It is a mistake to suppose that combs which are dark in colour are useless. We consider that good tough combs are the sheet anchor of success in bee-keeping, and have hundreds of spare combs of this description which will again do duty when required during the honey flow another season.

If the surplus combs are examined annually, and those having numerous cells filled, or partially filled, with pollen are removed and placed in the melting pot, all will be kept in good condition. It is, however, rather disappointing melting down combs that have been in use for several years, as the amount of wax obtained is much less than would be procured from the same weight of new combs.]

THE DIFFICULTIES OF BEE-KEEPING.

It is amusing and interesting to observe the various methods practised by bee-keepers in different parts of the country. A few of the difficulties some of them have to contend with have quite recently come under our notice. One, a cottager who kept his bees in the time-honoured straw skep, was anxious to procure his honey without destroying the bees. He had never seen any bees driven, nor had he ever read any book on bee-keeping, but thought the bees would ascend into an empty skep if the one containing them were reversed and the skep placed on the top. This was done, and they were allowed to remain in this condition for several days, and on an examination taking place it was found that the bees still remained in their original skep. Not to be outdone by the bees, he next tried the plan of sealing the two hives together which was done with clay. We are unable to say how long they remained in this condition, but the skep was afterwards placed in its original position, and we were appealed to for the reason why the bees would not enter the empty skep. The matter was easily explained, and there is now one more bee-keeper who will not have the same difficulty again.

One of the commonest mistakes which we constantly meet with is the careless manner in which the coverings are placed on the top of the frames. Quite recently we examined a stock in which half the frames were exposed. They had been in this condition for two months, and were weak and short of stores. It is impossible for bees to do well when there is a current of air passing through the brood nest. This mistake is often made by people who are nervous whilst handling bees.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

H. Cannell & Sons, Swanley.—Autumn Catalogue.

W. Cutbush & Son, Highgate.—Carnations.

Dicksons & Co., Waterloo Place, Edinburgh.—Roses.

T. Rivers & Sons, Sawbridgeworth.—Fruit.

C. Turner, Slough.—Fruit Trees and Roses.

T. S. Ware, Ltd., Tottenham.—Bulbs.

W. Watson & Sons, Clontarf Nurseries, Dublin.—Carnations and Violas.



TO CORRESPONDENTS

All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Physalis (L.).—Fruiting stems have often been exhibited by Messrs. James Veitch & Sons, Ltd. the last time on Tuesday last at the meeting of the Royal Horticultural Society, as noted on page 281.

Flora of Mauritius (J. W., Glasgow).—We do not remember at the moment of writing any book on the subject indicated. If any of our readers know of one they will oblige by particulars as to title, publishers, and price.

Cleaning Glass Outside a Greenhouse (R. Q. P.).—The matter on the glass is simply the slimy deposit from the chimneys hardened on the surface, and consists mainly of carbon. It is difficult to remove, but may usually be softened by treating with caustic potash, made by dissolving potash in water, mixing the solution with freshly burned and slaked lime, then, after the mixture has settled, pouring off the clear liquid for use. Keep the glass moist with the liquid for some time, and it will soften the sooty deposit—at least, such has been our experience. Muriatic acid may also be applied with a brush, and in about an hour's interval the substance on the glass should be soft and easily removed.

Manure for Mushroom Beds (G. P.).—It is difficult to advise in such a case without knowing the nature of the manure as to containing a good amount of short decaying straw or otherwise. We are inclined to suspect that which you are preparing is too dry. It should be decidedly moist and feel almost greasy when a handful is grasped. If rather dry water it, throw it into a heap to generate a good amount of heat. It ought then, after the sundry turnings—perhaps too many—to be ready for making up in beds. We presume you have "Mushrooms for the Million." Read pages 21 to 31, also page 109 (seventh edition). If you get the materials into the condition advised you need not trouble about the mildew.

Fig Leaves Brownd (H. F. B.).—The leaves are affected by what is known as browning or "brunure," caused by a slime fungus (*Pseudo-commis Vitis, Debray*). This gives rise to depressed dark spots surrounded by a brownish band. Ultimately the leaves become affected all over, wither and die wholly or in part. The disease is not new, but has only recently been investigated, and found to be referable to the parasite named. The only preventives are to collect and burn all infested leaves, then thoroughly dust the trees when damp in every part with quicklime, applying a dressing of it also to the soil; or treat with copper solutions or dustings with the powders containing sulphate of copper. We have found the dry lime treatment effective, as this repels the fungus, if not destroying it, and is less objectionable than copper preparations.

Chrysanthemum Buds Deformed (W. M.).—No disease can be discovered as caused by micro-organisms. The buds are simply conglomerated on short stubby shoots, but from what cause this arises is difficult to account, though most commonly from a severe check to the growth after the plants have attained to bud-formation size. It may be a sudden deprivation of water or loss of roots through an overdose of feeding substance, and not infrequently from the plants being treated very generously in their early stages, and when arrived at full growth deprived of due supplies of water and nourishment. We have only noticed the malformation when the plants have been overgrown and then checked, such as occurs in a period of very dry weather. The deformity not infrequently passes into the cuttings, which, when rooted, form several stubby growths instead of one strong and clean. We can only suggest clean cuttings as the way out of the difficulty, a change being often the only means of securing plants with free growths.

Iron and Wire Espalier for Apple Trees (W. G.).—The height we most approve for Apple trees is 6 feet, and the wires 1 foot apart for horizontal training but 6 inches for fan training, the first wire in either case being 1 foot from the ground. You will require two straining posts, one at each end of the line, commonly called "pillar and stay," which are made in strength suited to the height of the espalier, and have a self-fixing base. Upright or intermediate standards, each $1\frac{1}{4}$ inch wide by $\frac{1}{4}$ -inch thick, will also be required, 9 feet apart, and No. 13 L.W.G. wire. The whole should be galvanised. We cannot recommend dealers, but any of those advertising in our columns will be pleased to supply estimates on your giving particulars.

Cannas (Scotch Fir).—The method you propose, of sowing now and keeping the plants growing throughout the winter, for eventually planting them out next summer, would not be likely to answer. Except under specially favourable conditions of light and warmth, the seedlings would either be drawn or get root-bound by or before next June, and the result of either state would be partial or entire failure. For planting out Cannas must be dwarf, sturdy and thrifty, with thick healthy leaves and active roots. Plants are raised by sowing seeds (which have been soaked in warm water for several hours) in heat in the spring, then growing the plants on a shelf close to the glass of a structure having a night temperature of about 55°, with the usual rise in the day. They must be transferred from small pots to larger as growth progresses, using good loamy soil. If they get too much root-bound before shifting or planting, no after treatment can make them flourish. Fine named varieties, with brilliant Gladiolus-like flowers, are increased by division of the crowns in the spring, keeping them in a resting state by comparative dryness through the winter. A good number of showy varieties may be obtained from seeds obtained from a first-class collection, but they cannot be expected to equal the best named flowers, which you may have seen at exhibitions. It is a too common mistake both to start the crowns too soon and force on the seedlings in too much heat for three or four months before they can be planted in flower beds. That method of procedure spells failure. No doubt detailed cultural notes will appear in time to be serviceable.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state.* (E. S. R.).—As you have sent leaves and stated the character of the flowers we are able to name the Peaches. 1, Noblesse; 2, Belle Baucé, a late form of Gros Mignonne. The Pear is Willams' Bon Chrétien. (G. W.).—As we have stated on several occasions specimens of the young wood ought to be sent with Plums for naming. In the absence of this we are not certain the names are correct, but possibly—1, Pond's Seedling; 2, White Magnum Bonum; 3, Coe's Golden Drop; 4, Jefferson; no stalk. The plant is *Leycesteria formosa*. (Somerset).—Well grown examples of the Crittenden or Farleigh Damson. (W. R. R.).—1, Cambusnethan Pippin, a favourite in Scotland, and there called Cam'nethan Pippin, from an ancient monastery in Stirlingshire, where it is supposed to have originated. It is not in the R.H.S. list of dessert Apples for exhibition, but eligible. 2, Flower of Kent (H. D.). 1, Hollandbury; 2, a smooth Ribston Pippin; 3, Court of Wick; 4, Herefordshire Pearmain; 5, Bedfordshire Foundling; 6, Norfolk Bearer. We are glad to hear of your success in renovation. (E. B.).—1, Stamford Pippin; 2, Alfriston; 3, Lord Derby; 4, London Pippin. (F. Q.).—1, Manks Codlin; 2, Gaseoyne's Scarlet; 3, Beauty of Kent; 4, Golden Knob; 5, not recognised. (F. J. L.).—1, Blenheim Pippin, very fine; 2, Cox's Pomona; 3, New Hawthornden, very fine; 4, not certain, resembles Twenty Ounce; 5, Court Pendu Plat; 6, Mère de Ménage.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (W.).—*Mirabilis jalapa*, Marvel of Peru. (W. G.).—1, *Aster ericoides*; 2, *A. amellus bessarabicus*; 3, *A. acris*; 4, *A. longifolius*; 5, *A. elegans*.

COVENT GARDEN MARKET.—Oct. 12.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve ...	1	3 to 3 6	Lemons, case ...	3 0 to 6 0	0
Cobs ...	15	0 50 0	St. Michael's Pines, each	2	6 5 0
Grapes, lb. ...	0	10 1 6			

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0	0 to 0 0	Mustard and Cress, punnet	0	2 to 0 4
Beans, $\frac{1}{2}$ sieve ...	0	0 0 0	Onions, bushel ...	3	6 4 0
Beet, Red, doz. ...	1	0 0 0	Par-ley, doz. bnchs. ...	2	0 3 0
Carrots, bunch ...	0	3 0 4	Parsnips, doz. ...	1	0 0 0
Cauliflowers, doz. ...	2	0 3 0	Potatoes, cwt. ...	2	0 4 0
Celery, bundle ...	1	0 0 0	Salsafy, bundle ...	1	0 0 0
Coleworts, doz. bnchs. ...	2	0 4 0	Scorzonera, bundle ...	1	6 0 0
Cucumbers ...	0	4 0 8	Seakale, basket ...	1	6 1 0
Endive, doz. ...	1	3 1 6	Shallots, lb. ...	0	3 0 0
Herbs, bunch ...	0	3 0 0	Spinach, pad ...	0	0 0 0
Leeks, bunch ...	0	2 0 0	Sprouts, $\frac{1}{2}$ sieve ...	1	6 1 9
Lettuce, doz. ...	1	3 0 0	Tomatoes, lb. ...	0	4 0 9
Mushrooms, lb. ...	0	6 8	Turnips, bunch ...	0	3 0 4

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6	0 to 36 0	Foliage plants, var., each	1	0 to 5 0
Aspidistra, doz. ...	18	0 36 0	Lilium Harris, doz. ...	12	0 18 0
Aspidistra, specimen ...	5	0 10 6	Lycopodiums, doz. ...	3	0 4 0
Dracæna, var., doz. ...	12	0 30 0	Marguerite Daisy, doz. ...	6	0 9 0
Dracæna viridis, doz. ...	9	0 18 0	Mignonette, doz. ...	4	0 6 0
Erica various, doz. ...	9	0 24 0	Musk, doz. ...	2	0 6 0
Euonymus, var., doz. ...	6	0 18 0	Myrtles, doz. ...	6	0 9 0
Evergreens, var., doz. ...	4	0 18 0	Palms, in var., each ...	1	0 15 0
Ferns, var., doz. ...	4	0 18 0	„ specimens ...	21	0 63 0
„ small, 100 ...	4	0 8 0	Pelargoniums, scarlet, doz. ...	4	0 6 0
Ficus elastica, each ...	1	0 7 0	„ „ ...	8	0 10 0

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch ...	2	0 to 3 0	Maidenhair Fern, doz. ...	4	0 to 8 0
Bouvardias, bunch ...	0	6 0 9	bnchs. ...	1	6 3 0
Carnations, 12 blooms ...	1	0 2 0	Mignonette, doz. bnchs. ...	1	0 2 0
Chrysanthemums, per doz. ...	1	0 4 0	Myosotis, doz. bnchs. ...	1	6 9 0
Eucharis, doz. ...	2	0 3 0	Orchids, var., doz. blooms	3	0 6 0
Gardenias, doz. ...	1	0 2 0	Pelargoniums, doz. bnchs. ...	1	0 1 6
Geranium, scarlet, doz. ...	4	0 6 0	Polyanthus, doz. bnchs. ...	1	0 1 6
bnchs. ...	1	0 1 6	Pyrethrum, doz. bnchs. ...	0	6 1 6
Gladioli, per bunch ...	1	6 2 0	Roses (indoor), doz. ...	0	3 0 6
Lapageria (white) ...	1	0 1 3	„ Red, doz. ...	1	0 2 0
„ (red) ...	4	0 5 0	„ Tea, white, doz. ...	1	0 2 0
Lilium longiflorum, 12 ...	1	0 2 0	„ Yellow, doz. (Perles) ...	1	0 2 0
blooms ...	1	6 2 6	„ Safrano (English) doz. ...	1	6 3 0
Lily of the Valley, 12 sprays	1	6 2 6	„ Pink, doz. ...	1	6 2 0
Marguerites, doz. bnchs. ...			Smilax, bunch ...		



FEMALE WORKERS.

AGRICULTURALLY considered, of course, is there an opening for them? What can they do? and how best prepare themselves for their work? To outsiders, the idea of a woman farmer may appear preposterous. We do not care about the "idea." The fact is not preposterous.

It has been our lot to meet many able women, who proved they were as equal to managing a farm as the best of men. Indeed, given a woman bred and born in the country, with a thorough love of country ways and habits, what a pleasant outlet for her energies farming is. There are women who want a little more breadth of mind—i.e., they are rather adverse to outlay where they see no immediate profit; but we will back any woman (agriculturally) in the kingdom against any man, be he whom he may, for strict carefulness and watchfulness over small matters. Farm life is all detail, and it is certain that many of these details escape the close attention they should have when the farmer is of the male gender.

Those women best fitted for the work are the intelligent daughters of a practical hard-headed man—a man who is not above the discussion of ways and means in the family circle. We like as raw material those girls best who have no brother. Their father, if wise, can

create in them a desire for knowledge, which he would not trouble to impart to them if he had a son to train.

We knew a family of daughters—aye, several—who on the father's death were able to carry on the farm and keep the home together, with the occasional visit from their trustee. In one case they would have managed better perhaps without that trustee. We knew of a widow whose holding was not less (we believe more) than 600 acres, who had her fat stock sales, her sales of hunters, and grew tons upon tons of Potatoes; and only this week we noted with pleasure the well-cultivated farm of a young lady unhampered by any male interference. She told us that in case of a real difficulty, which rarely occurred, there were plenty of middle-aged men to whom she could refer. She breeds her own cart horses and hunters, and manages to get at least two days after hounds during the season.

Of course it is not everyone who has command of capital necessary to make such an enterprise pay. There are others who do not take the slightest interest and pleasure in any occupation connected with the land. Nowadays that there is such a rush for the towns—and openings there for female labour are few and far between—it seems a pity that a farmer's daughters should throw themselves into the vortex.

We do not think so far there is in England a female Cirencester, and little has been done yet by technical boards to provide classes for the instruction of women in matters agricultural—excepting, of course, our centres for dairy work and the travelling dairy schools. These are capital, but they do not go far enough. There are other products to be dealt with on a farm besides milk. True, too, we have poultry lectures, and we have heard of demonstration classes being held for a fortnight in some districts. It is not long enough; we can't see how a student can really get any grasp of the subject under less than three months' course.

In the "Contemporary Review" for September of this year Virginia M. Crawford gives us some account of how Belgians are trying to really impart useful farm knowledge to girls and women. All have much to learn—are they willing to learn? There is at Heverlé, near Louvain, a school for the daughters of farmers, where, in addition to a sound general education, a girl can be taught practical dairy work, poultry rearing, pig feeding, or bee-keeping. She will also have a grasp of book-keeping, rotation of crops, and the relative values of manures.

As a proof that this school meets a need we may mention that the pupils number 750, and numbers are turned away for want of room. Sixty "sisters" compose the staff, and those who actually teach are certificated. Every detail is well carried out, the buildings spacious and comfortable, and the school fees are £12 per annum. The children usually enter at thirteen or fourteen years of age, and at eighteen, if a girl has anything at all about her, she is equipped for life. Town girls, or those intended for town life, take a different course, but all learn something—or, rather, much—that is bound to be invaluable in after life. A horticultural course is included if desired. In the dairy no less than eighteen sorts of cheese are made. There is another, but much smaller, school on the same lines at Overysse, near Brussels.

We have always held the theory that an educated woman will work with greater nicety and finish than her less fortunate sister, and if she can get a technical training in addition to her education, she should turn out first class work. She would not be content to manipulate milk from improperly fed cows—i.e., cows fed on highly flavoured foods, or on foods not adapted to a plentiful milk flow. She would not be content with fowls of a mongrel breed whose sole object in life appeared to be the development of muscle rather than eggs; fowls which by no means could be got fat, or fowls which succumbed to the least attack of disease.

A good book-keeper is invaluable, either on or off a farm, but particularly on a farm where produce is sold in small quantities. We see no reason why a woman should not be a judge of the quality of grain; it is merely a question of cultivating the powers of observation; and we think a woman should be as quick as a man to detect any signs of ill-health in stock.

We know a family of girls now who are in the habit daily of "shepherding" all the stock on a very large grass holding in the Midlands. Of course they do it on horseback, as the distances are so great.

In the days of our grandmothers rarely did bad bacon or ham occur; now the process is too often left to the groom or cowman, and burials of "wrong" meat are of constant occurrence.

We hate to see a man milk; but perhaps we trench on delicate ground, and we will go no further for fear of a wiggling from our better half.

[The "better half" ought to be pleased with the compliment paid to her sex. We suspect the other half has experienced the help of a good and clever helpmeet. We will send her a prospectus in order that he may receive a curtain lecture for not being quite up to date on the question of the Education of Women in Agriculture; and the institution for this actually in England!]

WORK ON THE HOME FARM.

Were it not that Potatoes were being lifted with such ease, and in such fine condition, we should be very much out of love with the drought which still continues with undiminished severity. True, the sun is a little severe on the backs of the young Potato pickers, but they would probably much prefer burning backs to frozen fingers, for a coating of half-frozen mud is not conducive to good circulation in those members.

Yesterday we were shooting under a broiling sun, with a shade temperature somewhere near the eighties. Just ten years ago (the same day of the month) we were also shooting, but in such a snowstorm that we lost all feeling in our fingers, and had to give up from sheer inability to proceed.

The farmer, to contend successfully with such contrasts of climate, requires a huge stock of patience and good temper. The Potatoes will soon be up, and what are we to do then? Lea ploughing is impossible, and fallows have all been well worked and clean. Perhaps the best thing would be to plough these latter as deeply as is practicable, and give the twitch a further chance to die whilst the weather is so very favourable.

It is time to plant out young Cabbage for sheep food next midsummer. A good mucking is necessary, and the muck should be ploughed in deeply; but here is the rub, deep ploughing is out of the question at present, so we should advise a wait, for Cabbage will not do well without deep cultivation, and if the land could be prepared there would be a doubt as to the success of the transplanting, with the soil as dry as it is.

We have had one decided frost during the week, and several thick foggy mornings. This has not had a good effect on the cattle on lowland pastures. Several are suffering from scour, and must be moved to higher and drier quarters near home if they are not brought permanently into the yards. There is no saving in keeping cattle out in the fields to lose flesh, and they can lose as much now in a fortnight as will take a month of good food to regain.

Feeding pigs now require extra attention. Sharps or barleymeal must be given with a liberal ration of steamed Potatoes, if the best and sweetest bacon is desired.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1898. October.	Barometer at 32°, and Sea Level	Hygrometer		Direc- tion of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Tempera- ture.			
		Dry.	Wet.			Max.	Min.	In Sun	On Grass		
	inches	deg.	deg.		deg.	deg.	deg.	deg.	deg.	inches.	
Sunday	2	30.358	50.0	49.8	E.	53.7	68.1	40.2	95.6	35.7	—
Monday	3	30.326	57.6	55.0	E.	53.3	71.1	46.3	106.1	39.3	—
Tuesday	4	30.347	58.6	57.2	N. E.	55.0	63.6	56.1	73.8	48.7	—
Wednesday ..	5	30.262	57.7	56.4	E.	56.1	61.3	57.4	67.6	55.9	—
Thursday ..	6	30.119	59.1	57.4	N. E.	56.3	63.1	57.1	74.1	55.9	—
Friday	7	30.029	55.4	53.2	N. E.	56.6	60.9	53.7	72.9	53.2	—
Saturday....	8	29.953	55.1	51.3	E.	56.2	60.7	53.9	92.8	52.1	—
		30.199	56.2	54.3		55.3	64.1	52.1	83.3	48.7	—

REMARKS.

2nd.—Humid early; cloudless almost throughout.
 3rd.—Almost cloudless throughout.
 4th.—Overcast almost throughout and drizzle early; faint gleam of sun at midday.
 5th.—Overcast all day, with occasional drizzle.
 6th.—Overcast day, with occasional slight drizzle.
 7th.—Overcast throughout; slight drizzle early.
 8th.—Overcast early; gradually improving, and bright sun all afternoon.
 An almost rainless week, cloudy and damp in the middle, but fine and pleasant at the beginning and end. Temperature above the average, chiefly owing to absence of radiation at night.—G. J. SYMONS.

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HENRY IRVING, one of the earliest, very large flower, fine deep golden yellow, per 100 21/-, per doz. 3/-.
QUEEN OF SPAIN, very beautiful delicate soft yellow, with reflexing petals, per 100 17/6, per doz. 2/6.
BICOLOR HORSEFIELDI, petals pure white, trumpet golden, handsome, very early, per 100 17/6, per doz. 2/6.
INCOMPARABILIS SIR WATKIN, a very handsome large flower, petals sulphur, cup rich orange yellow, per 100 25/-, per doz. 3/6.
HARRI CONSPICUUS, broad yellow petals, cup conspicuously edged bright orange scarlet, a beauty and a general favourite, per 100 17/6, per doz. 2/9.
JEEDSII, MRS. LANGTRY, broad white petals, large white cup, edged canary yellow and much crinkled, a pretty Daffodil and very free, per 100 35/-, per doz. 5/6.
TRIANDRUS ALBUS ("Angel's Tears"), a gem on rockwork, pretty cream-coloured flowers, petals reflexed, per 100 8/6, per doz. 1/3.
POETICUS POETARUM, the most beautiful of the white Poets' Daffodils, per 100 12/6, per doz. 1/9.

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Journal of Horticulture.

THURSDAY, OCTOBER 20, 1898.

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ROSE ANALYSIS.

(1891—1898).

THE Rose season of the present year proved an unusually backward one, owing to the low temperatures that prevailed during the greater part of May and June. For the requirements of our analysis a late season was much wanted to keep the balance true between the early and late varieties of Roses, there having been in recent years a succession of more or less forward summers. In fact, I have only been waiting for a decided break in this succession of forward seasons in order to shorten somewhat the period over which this series of records has now extended:

After carefully weighing one consideration with another, I have decided this year to restrict the analysis to the last eight Crystal Palace exhibitions of the National Rose Society instead of going back to the full thirteen years for which data are available. If it were not for the introduction of new varieties the period chosen could not well be too long. It will, however, be readily understood how these new comers, gradually elbowing their way upwards year after year, must to a certain extent influence the exhibition of many of their older brethren, and particularly those of the same or a similar colour, consequently, if the tables are to be kept strictly up to date, a moderately long period must yield more comparable results than one which is unduly extended.

It must not be imagined that the change this year introduced will in any way seriously alter the relative positions of the different Roses in the tables. To test this I have calculated the averages for the first twelve established varieties in the list of H.P.'s both ways, and find that the positions of six of these would remain unchanged whichever way reckoned, while four others would rise or fall only one place, and the remaining two but two places. Taking the tables as a whole, I should say that never before have the different varieties been quite as satisfactorily graded, one reason for this being that 80 per cent. of them have been in general cultivation by exhibitors throughout the whole of the eight years.

No. 2612.—VOL. XCIX., OLD SERIES.

The National Rose Society's Metropolitan Show was held at the Crystal Palace this year on July 2nd, which is the earliest date but one possible, the fixture being always the first Saturday in that month. The weather for some weeks previous to the exhibition had

been cold and dry, and the plants in consequence were in most districts suffering from one of the worst and most persistent attacks of green fly known for many years. But adverse as were the atmospheric conditions before the show, the show day itself was all that

HYBRID PERPETUALS AND HYBRID TEAS.

Position in Present Analysis.	Average Number of Times Shown.	No. of Times Shown in 1898 in True Relative Proportion to the Average.	Name.	Date of Introduction.	Raiser's or Introducer's Name.	Colour.
1	46.1	25	Mrs. John Laing	1887	Bennett	Rosy pink
2	33.9	25	Ulrich Brunner.....	1881	Levet	Cherry red
3	33.0	32	A. K. Williams.....	1877	Schwartz	Bright carmine red
* 3	33.0	33	Mrs. W. J. Grant (H.T.).....	1895	A. Dickson & Sons ...	Bright rosy pink
5	31.8	36	La France (H.T.)	1867	Guillot	Silvery rose, shaded lilac
6	30.7	22	Madame Gabriel Luizet	1877	Liabaud	Light silvery pink
7	30.0	36	Mrs. R. G. Sharman-Crawford	1894	A. Dickson & Sons ...	Clear rosy pink
8	29.5	31	Kaiserin Augusta Victoria (H.T.)	1891	Lambert & Reiter	Cream, shaded lemon
9	29.0	42	Caroline Testout (H.T.)	1890	Pernet & Ducher	Light salmon pink
10	28.8	22	Suzanne M. Rodocanachi	1883	Lévêque	Glowing rose
11	28.7	1	Her Majesty	1885	Bennett	Pale rose
12	27.8	22	Marie Baumann	1863	Baumann	Soft carmine red
13	27.0	2	Marchioness of Londonderry	1893	A. Dickson & Sons ...	Ivory white
* 14	26.0	26	Helen Keller	1895	A. Dickson & Sons ...	Rosy cerise
15	25.3	30	Gustave Piganeau	1889	Pernet & Ducher	Shaded carmine
16	25.0	10	Alfred Colomb	1865	Lacharme	Bright carmine red
17	24.0	32	Captain Hayward	1893	Bennett	Scarlet crimson
18	23.0	23	Charles Lefebvre	1861	Lacharme	Purplish crimson
19	21.4	24	Horace Vernet	1866	Guillot	Scarlet crimson, dark shaded
20	19.1	10	Earl of Dufferin.....	1887	A. Dickson & Sons ...	Dark crimson, shaded maroon
20	19.1	2	Merveille de Lyon	1882	Pernet.....	White
22	19.0	22	Dupuy Jamain	1868	Jamain	Bright cerise
23	18.4	9	Etienne Levet	1871	Levet	Carmine rose
23	18.4	17	Prince Arthur	1875	B. R. Cant.....	Bright crimson
25	17.5	9	Fisher Holmes	1865	E. Verdier	Shaded crimson scarlet
26	17.4	27	Duke of Wellington	1864	Granger	Bright shaded crimson
27	17.2	30	Margaret Dickson.....	1891	A. Dickson & Sons ...	Ivory white
28	17.0	22	Marquise Litta (H.T.)	1893	Pernet & Ducher	Carmine rose, brighter centre
29	16.1	2	Baroness Rothschild.....	1867	Pernet.....	Light pink
30	15.3	2	Louis Van Houtte	1869	Lacharme	Deep crimson, shaded maroon
31	15.0	2	François Michelin	1871	Levet	Deep rose, reverse silvery
31	15.0	14	Marchioness of Downshire	1894	A. Dickson & Sons ...	Light pink, shaded rose
31	15.0	14	Marchioness of Dufferin	1891	A. Dickson & Sons ...	Pink
31	15.0	9	Victor Hugo	1884	Schwartz.....	Dazzling crimson, shaded
35	14.4	15	Heinrich Schultheis	1882	Bennett	Pinkish rose
36	14.3	25	Duke of Edinburgh	1868	Paul & Son.....	Scarlet crimson
37	14.0	18	Général Jacqueminot	1853	Rousselet	Bright scarlet crimson
38	13.1	10	Ferdinand de Lesseps	1869	E. Verdier	Shaded crimson
38	13.1	20	Lady Mary Fitzwilliam (H.T.)	1882	Bennett	Rosy flesh
40	13.0	16	Dr. Andry	1864	E. Verdier	Bright crimson
41	12.8	10	E. Y. Teas	1874	E. Verdier	Bright red
42	12.7	14	Comte Raimbaud	1867	Rolland	Clear crimson
43	12.5	15	White Lady (H.T.)	1890	W. Paul & Son	Creamy white
44	11.9	3	Marie Verdier	1877	E. Verdier	Pure rose
45	11.8	6	Camille Bernardin	1865	Gautreau	Light crimson
46	11.0	15	Jeannie Dickson	1890	A. Dickson & Sons ...	Soft silvery rose
47	10.6	9	Xavier Olibo	1864	Lacharme	Dark velvety crimson
48	10.1	1	Comtesse d'Oxford	1869	Guillot	Carmine violet
* 49	10.0	10	Tom Wood.....	1896	A. Dickson & Sons ...	Cherry red
50	9.9	5	Abel Carrière	1875	E. Verdier	Crimson maroon, shaded purple
50	9.9	9	Duchess of Bedford	1879	Postans	Light scarlet crimson
50	9.9	9	Le Havre	1871	Eude	Vermilion red
51	9.5	9	Duke of Teck	1880	Paul & Son.....	Light crimson scarlet
54	8.8	7	Beauty of Waltham	1862	W. Paul & Son	Rosy crimson
55	8.7	3	Duchesse de Morny	1863	E. Verdier	Silvery rose
56	8.6	8	Prince Camille de Rohan	1861	E. Verdier	Crimson maroon
57	8.4	2	Madame Eugène Verdier	1878	E. Verdier	Silvery rose
57	8.4	2	Reynolds Hole	1873	Paul & Son.....	Deep scarlet maroon
59	8.0	2	Pride of Waltham.....	1881	W. Paul & Son	Light salmon pink, shaded violet
60	7.8	5	Charles Darwin.....	1879	Laxton	Brownish crimson
61	7.6	3	Marie Finger.....	1873	Raimbaud	Light salmon rose
62	7.5	2	Duke of Fife	1892	Cocker	Deep crimson scarlet
63	7.1	5	Marquise de Castellane	1869	Pernet.....	Clear cherry rose
63	7.1	1	Star of Waltham	1875	W. Paul & Son	Carmine, shaded violet
65	6.8	2	Marie Rady	1865	Fontaine.....	Brilliant red
65	6.8	6	Violette Bouyer	1881	Lacharme	Tinted white
67	6.5	1	Countess of Rosebery	1879	Postans	Cherry carmine rose
68	6.4	7	Madame Victor Verdier	1863	E. Verdier	Clear light crimson
69	6.3	14	Viscountess Folkestone (H.T.)	1886	Bennett	Creamy white, shaded flesh
70	5.7	3	Captain Christy (H.T.)	1873	Lacharme	Delicate flesh
71	5.6	2	Duke of Connaught	1876	Paul & Son	Bright velvety crimson

* New varieties whose positions are dependent on their records for the 1893 show only.

could be wished, being not only fine and bright, but also only moderately warm.

As might have been anticipated, with such a backward season, the Hybrid Perpetuals and Hybrid Teas which were best represented at that exhibition were as a rule the earlier flowering sorts. The variety most frequently to be seen in the prize stands was Caroline Testout, followed in the order given by La France, Mrs. R. G. Sharman-Crawford, Mrs. W. J. Grant, A. K. Williams, and Captain Hayward. The following sorts were also greatly in evidence; indeed, going back in the case of those varieties which will allow of our doing so, the full thirteen years, never before have they been as often staged as they were this year—viz., Gustave Piganeau, Duke of Wellington, Margaret Dickson, White Lady, Jeannie Dickson, and Viscountess Folkestone. That grand dark Rose, Horace Vernet, was also finely shown, while Dupuy Jamain had the best record for five years, Duke of Edinburgh and Lady Mary Fitzwilliam for ten years, Général Jacqueminot for six years, and Dr. Andry for seven years.

But there is as usual a reverse side to this pleasing picture, for the backward season, while favouring most of the early varieties, was of course just as unfavourable to those which are late flowering. Some few of the early and midseason ones were, however, also indifferently shown. For instance, Mrs. John Laing, the leading Rose on the list, has at no previous show been as seldom staged as it was this year. Moreover, twelve other varieties had better records, whereas at the preceding six exhibitions no other Rose in the table could show as good a one. That refined light H.P. Madame Gabriel Luizet, although one of the earliest to flower, was also very indifferently represented, and the same may be said of Marie Baumann, a midseason variety. But the greatest sufferers were of course the late-flowering sorts, such as Her Majesty, Alfred Colomb, Earl of Dufferin, and Merveille de Lyon, all of which had poorer records than at any previous exhibition.

We come now to the comparatively new H.P.'s and H.T.'s—those

sent out during the last five years. Of the 1893 varieties both Captain Hayward and Marquise Litta were shown about twice as frequently as in the previous year. But Marchioness of Londonderry, being a late variety, had no chance at all this year of displaying its capabilities. If this variety were only a more pleasing shade of white it would be a universal favourite with exhibitors; indeed, a really good white H.P. would be as warmly welcomed as John Walker has been among the Show Dahlias. Marchioness of Downshire, first distributed in 1894, has not as yet improved on its last year's form. But Mrs. R. G. Sharman-Crawford, another pink H.P. of the same year, was splendidly represented; in fact, only one other Rose in this section (Caroline Testout) was more frequently staged. If this be true of Mrs. Sharman-Crawford, what can we say respecting Mrs. W. J. Grant, which, although only distributed in 1895, was shown in but three fewer prize stands, and on the strength of this record rises to the fourth place in the analysis? There is no other Rose I know of except Mrs. John Laing that has ever performed such a feat as this in so short a time. Helen Keller, another 1895 variety, has also distinguished itself by rising from No. 33 to No. 14, having been nearly twice as often staged this year as last. The remaining new Rose in the table is Tom Wood, only sent out in 1896, which on its first appearance was set up in nearly a dozen prize stands. Further particulars respecting the foregoing and other new varieties and their respective merits, will be found under the heading of "The Newer Roses Audit."

Of the seventy-one varieties on the list of H.P.'s and H.T.'s, there are, I find, six which may be described as white, or nearly white, sixteen as some shade of pink, fifteen as medium reds, twenty-two as crimson, and twelve as dark crimson or maroon Roses.

There are now plenty, if not almost too many, pink sorts, and quite enough medium reds and crimson Hybrid Perpetuals. What, however, is still wanted is a first-class white, and also a first-class maroon H.P. There is one white H.T. which appears to have been hitherto somewhat overlooked by exhibitors, but which was so

TEAS AND NOISETTES.

Position in Present Analysis.	Average Number of Times Shown.	No. of Times Shown in 1898 in True Relative Proportion to the Average.	Name.	Date of Introduction.	Raiser's or Introducer's Name.	Colour.
1	39.8	33	Catherine Mermet	1869	Guillot	Light rosy flesh
2	38.9	34	The Bride	1885	May	White, tinged lemon
3	34.0	23	Comtesse de Nadaillac	1871	Guillot	Peach, shaded apricot
4	33.1	15	Innocente Pirola	1878	Madame Ducher	Creamy white
5	28.9	25	Madame Cusin	1881	Guillot	Violet rose, yellow base
6	28.3	39	Souvenir de S. A. Prince	1889	Prince	Pure white
7	27.8	28	Marie Van Houtte	1871	Ducher	Lemon yellow, edged rose
8	27.0	22	Maman Cochet	1893	Cochet	Deep flesh, suffused bright rose
9	26.8	28	Madame Hoste	1887	Guillot	Pale lemon yellow
10	26.1	27	Souvenir d'un Ami	1846	Belot-Defougère	Pale rose
11	25.4	24	Souvenir d'Elise Vardon	1854	Marest	Cream, tinted rose
12	23.7	15	Ernest Metz	1888	Guillot	Salmon, tinted rose
13	23.6	26	Honourable Edith Gifford	1882	Guillot	White, centre flesh
13	23.6	15	Madame de Watteville	1883	Guillot	Cream, bordered rose
15	22.0	26	Maréchal Niel (N.)	1864	Pradel	Deep bright golden yellow
16	20.6	13	Niphotos	1844	Bougère	White
17	19.8	19	Caroline Kuster (N.)	1872	Pernet	Lemon yellow
18	19.5	14	Medea	1891	W. Paul & Son	Lemon yellow
19	17.2	3	Ethel Brownlow	1887	A. Dickson & Sons ..	Rosy flesh, shaded yellow
20	16.8	6	Francisca Krüger	1879	Nabonnand	Coppery yellow shaded peach
21	16.5	19	Anna Olivier	1872	Ducher	Pale buff, flushed
22	16.0	15	Jean Ducher	1874	Madame Ducher	Salmon yellow, shaded peach
23	14.9	10	Princess of Wales	1882	Bennett	Rosy yellow
24	13.5	10	Madame Bravy	1848	Guillot	White, flushed pale pink
25	11.3	23	Rubens	1859	Robert	White, shaded creamy rose
*26	11.0	11	Muriel Grahame	1896	A. Dickson & Sons ..	Pale cream, flushed rose
27	10.3	14	Bridesmaid	1893	May	Bright pink
28	9.9	16	Cleopatra	1889	Bennett	Creamy flesh, shaded rose
29	8.9	0	Etoile de Lyon	1881	Guillot	Deep lemon
30	6.5	5	Madame Lambard	1877	Lacharme	Salmon, shaded rose
31	5.3	8	Devoniensis	1838	Foster	Creamy white, blush centre

* A new variety whose position is dependent on its record for the 1898 show only.

remarkably well shown at the Crystal Palace this year, that should next season prove favourable, it is pretty certain to rise to a higher place in the analysis than it at present takes. I refer to White Lady, which was first sent out in 1890. Its moderate growth as a cut-back one, of course, its great defect. Again, among the really dark Hybrid Perpetuals, Horace Vernet could not be well surpassed as a flower, but with many growers it has, I fear, proved sadly lacking in vigour as a plant.

Few Teas or Noisettes were unusually well shown this year at the Crystal Palace, but of these may be mentioned Souvenir de S. A. Prince, which was set up in the prize stands in greater numbers than any other variety in this section, and oftener than at any previous show. Maréchal Niel, favoured no doubt by the backward season, was better represented than at any exhibition for five years, whilst it was nearly a record year for Rubens and Cleopatra. Anna Olivier and its sport Madame Hoste, as well as the Hon. Edith Gifford, were also in good form.

On the other hand, Catherine Mermet and her sister The Bride, the two leading flowers on the list, were not nearly as frequently staged as usual, the former having the smallest record for twelve, and the latter for seven years. Comtesse de Nadaillac was also poorly shown, while Innocente Pirola has never before been as sparsely represented. Ernest Metz and Niphotos likewise were in bad form, and as to Ethel Brownlow there was scarcely a bloom of it anywhere to be seen.

Good new Teas are but slowly added to the list. In fact, there are only four on it less than eight years old—two of which are sports from that model variety, Catherine Mermet. Of the four new varieties the highest place is taken by Maman Cochet, which was sent out in 1893. This is undoubtedly a fine Tea of vigorous constitution, and must gradually win for itself even a better position than it at present takes in the analysis. Unfortunately at the show this year it was not so well represented as at either of the two previous exhibitions. The next highest on the list is Medea, distributed in 1891, which was also indifferently shown this year compared with last. Both Muriel Grahame and Bridesmaid have improved their positions since the last analysis was issued, but would have undoubtedly taken better places had not the season proved somewhat unfavourable to all the Catherine Mermet class. For further particulars respecting the new Roses in this section, see "The Newer Roses Audit."

It is not so easy to arrange the thirty-one Teas and Noisettes in the table according to colour as it was in the case of the Hybrid Perpetuals and Hybrid Teas, owing to the delicate character of their tints, and the way in which these are frequently blended together in the blooms of the same variety. Dividing them under three colours only they may, however, be placed as follows:—White and cream, nine varieties; pink and rose, thirteen varieties; and some shade of yellow, nine varieties.

To those kind friends who by assisting me in taking down the names of the different Roses in the prize stands at the Crystal Palace Show this year, and who thus rendered the foregoing analysis possible, my hearty thanks are once more due.

THE NEWER ROSES AUDIT.

This has been instituted as an appendix to the analysis, in order that the varieties of recent introduction, many of which it is impossible to place accurately in the tables, through their not having been grown in sufficient numbers by exhibitors generally; owing to their limited records; and to the disturbing influence of a single particularly favourable or unfavourable season upon those records. Added to which, new Roses can be included in this audit whose performances are not yet sufficiently good to allow them to appear at all in either table. Each of the following voters was this year requested to place the eleven H.P.'s and H.T.'s in the list below in their order of merit as exhibition Roses, and to deal in the same way with the list of Teas and Noisettes.

Amateurs.—Mr. J. Bateman, Mr. W. Boyes, Rev. A. Foster-Melliar, Mr. C. J. Grahame, Mr. H. P. Landon, Mr. E. B. Lindsell,

Mr. H. V. Machin, Mr. O. G. Orpen, Mr. A. Slaughter, and Mr. A. Tate.

Nurserymen.—Messrs. G. Burch, J. Burrell, C. E. Cant, Frank. Cant, W. F. Cooling, A. Dickson, R. Harkness, W. J. Jefferies, H. Merryweather, G. Mount, A. Piper, A. E. Prince, W. D. Prior, and A. Turner. The aggregate number of votes for each sort named in the list comes out as follows:—

HYBRID PERPETUALS AND HYBRID TEAS.

Position in Audit		Total No. of Votes.	Votes by Amateurs.	Votes by Nurserymen.
1	Helen Keller (1895)	105	45	60
2	Captain Hayward (1893)	87	42	45
3	Marchioness of Londonderry (1893)	72	30	42
4	Marquise Litta (1893), H.T.	69	37	32
5	Tom Wood (1896)	51	13	38
6	Marchioness of Downshire (1894)...	49	21	28

The remaining five varieties on the voting paper arrange themselves as follows. I may add that very few voters included either of them among the first six that they selected:—Souvenir de President Carnot (1895), Clio (1894), Souvenir de Madame Eugène Verdier (1895), Madame Jules Finger (1894), Mrs. Harkness, and Paul's Early Blush (1893).

TEAS AND NOISETTES.

Position in Audit		Total No. of Votes.	Votes by Amateurs.	Votes by Nurserymen.
1	Muriel Grahame (1896)	101	44	57
2	Bridesmaid (1893)	95	38	57
3	Medea (1891)	69	34	35
4	Golden Gate (1892)	49	17	32
5	Sylph (1895)	31	17	14

I have not included those sterling novelties Mrs. W. J. Grant, Mrs. R. G. Sharman-Crawford, and Maman Cochet in the above lists, as the two first appear among the first twelve H.P.'s and H.T.'s in the analysis, while Maman Cochet takes a similar place among the Teas and Noisettes, and consequently their positions were already fully assured.

ROSES FOR GENERAL CULTIVATION.

The following select lists have been revised with the usual care, but the alterations made from year to year are necessarily slight. As in the previous selection, all the established sorts named in each list have been placed in what I regard as their order of merit, considering the purposes for which they are intended. This arrangement is intended to assist those who require only a moderate number of varieties or plants. Those marked with an asterisk are of comparatively recent introduction.

EXHIBITION ROSES.—HYBRID PERPETUALS.—*Light Coloured Varieties.*—Mrs. John Laing, *Mrs. R. G. Sharman-Crawford, Madame Gabriel Luizet, Marie Finger, Merveille de Lyon, and *Marchioness of Londonderry. *Medium Reds.*—Ulrich Brunner, Dupuy Jamain, Suzanne Marie Rodocanachi, *Helen Keller, Comtesse d'Oxford, *Tom Wood, and Heinrich Schultheis. *Reds.*—Fisher Holmes, Général Jacqueminot, Marie Baumann, Alfred Colomb, Maurice Bernardin, *Captain Hayward, Dr. Andry, Duke of Edinburgh, and Victor Hugo. *Dark Varieties.*—Prince Arthur, Charles Lefebvre, Duke of Wellington, and Prince Camille de Rohan.

HYBRID TEAS.—La France, Viscountess Folkestone, *Mrs. W. J. Grant, Caroline Testout, Captain Christy, Kaiserin Augusta Victoria, *Marquise Litta, and Grace Darling.

TEAS AND NOISETTES.—Marie Van Houtte, Madame Lambard, Souvenir de S. A. Prince, *Maman Cochet, Hon. Edith Gifford, Caroline Kuster, Souvenir d'un Ami, Madame Hoste, Innocente Pirola, Anna Olivier, *Corinna, and Rubens.

GARDEN OR DECORATIVE ROSES.—SUMMER FLOWERING.—*Provence.*—Common or Cabbage. *Moss.*—Common or Old and Blanche Moreau. *Damask.*—Rosa Mundi. *Austrian Briar.*—Austrian.

Copper. *Hybrid Sweet Briars*.—Janet's Pride, *Lady Penzance, and *Anne of Geierstein. *Ayrshire*.—Bennett's Seedling or Thoresbyana (climbing). *Evergreen*.—Félicité Perpétue (climbing). *Climbing Polyantha*.—*Turner's Crimson Rambler, Claire Jacquier, and Grandiflora. **AUTUMN FLOWERING**.—*Hybrid Teas*.—Gustave Regis, Bardou Job, Augustine Guinosseau, Marquess of Salisbury, Gloire Lyonnaise, *Madame Abel Chatenay, and Madame Pernet Ducher. *China*.—Old Blush or Common Monthly, Laurette Messimy, *Madame Eugène Resal, and *Queen Mab. *Teas and Noisettes*.—Gloire de Dijon (climbing), W. A. Richardson (climbing), L'Idéal, Rêve d'Or (climbing), Beauté Inconstante, *Madame Pierre Cochet (climbing), *Alister Stella Grey (climbing), and *Souvenir de Madame Eugène Verdier. *Bourbon*.—Souvenir de la Malmaison. *Polyantha*.—Madame Anna Maria de Montravail, Gloire des Polyantha, Perle d'Or, and Cecile Brunner. *Japanese*.—Alba, Madame Georges Bruant, and Blanc Double de Coubert. *Perpetual Scotch*.—Stanwell Perpetual. A new climbing Rose should be also included, *Paul's Carmine Pillar (single-flowered).—E. M., *Berkhamsted*.

LOBELIA RIVOIREI.

THE beauty of the taller growing Lobelias is generally acknowledged by growers, and yet with the exception of such old favourites as fulgens and cardinalis, they are seldom seen. There can be no doubt but that those particularised are very handsome, but so also are many others of the same character that are procurable. Mr. W. Bain, gardener to Sir Trevor Lawrence, Bart, of Burford Lodge, Dorking, has an excellent collection, and their beauty has on more than one occasion been recognised by the Floral Committee of the Royal Horticultural Society by the recommendation of an award of merit. The last from Burford to receive this honour was Lobelia Rivoirei, of which we give an illustration (fig. 52). As with others of a similar habit, the upright growing plants attain to a height of about 2 feet, and the stems carry the rose hued flowers very profusely. The bright green leaves act as an admirable foil for the blooms, and add beauty to an already charming plant. We think this section is worthy of more attention from growers, as several of them cannot fail to elicit admiration. The plant from which our sketch was taken was exhibited at the Drill Hall on September 6th.

LINCOLN GARDENERS' ASSOCIATION.

A VERY interesting and instructive address on "Hardy Fruit Culture" was delivered to the members and friends of the above association by the Rev. C. C. Ellison, The Manse, Bracebridge, in the School of Art, Lincoln, on the 12th inst.; Dr. Lowe in the chair. The lecturer, who has been interested in fruit for a number of years, handled the subject in a masterly manner, and many practical illustrations of how best to succeed in the cultivation of Pears and Apples were put before the members. With regard to Apples, those grafted on the Paradise stock and grown as dwarf bushes, were specially commended the fruit being more easily gathered, and also allowing the important work of thinning to be more readily carried out.

With regard to manures, kainit and muriate of potash were recommended as the best potash manures, and bones and bonemeal and sulphate of ammonia as supplying phosphates and nitrogen. Mulching with manure, and grass from the lawn mowing, was also referred to as conserving the moisture in the soil, and thus benefiting the trees in dry seasons. Aphids, in the form of American blight and canker, were shown on living branches, and what were believed to be the best means to check and eradicate these pests were freely discussed. Mr. Ellison also brought for inspection the rootstock of a Lord Suffield Apple grafted on the Paradise stock, showing a huge swelling just above the graft. The stem above the contortion was thin, although the tree was an aged one. The sap having been arrested at the swelling, had caused Nature to assert herself, and the result was a multitude of suckers springing up from the roots.

In addition to the address there was an interesting display of fruits brought together in competition for prizes offered by Messrs. Wm. Wood and Sons and others. The former offered a silver cup for the best twelve dishes of fruit. Five competed, and Mr. Wipf, gardener to N. C. Cockburn, Esq., Hartsholme, proved the winner with Golden Eagle and Walburton Admirable Peach, Alicante and Muscat of Alexandria Grapes, Negro Largo Figs, Doyenné Boussoch, Maréchal de Cour, and Marie Louise Pears, Cox's Orange and Ribston Pippin Apples as the best dishes. Mr. Brown, The Bank, was awarded the second prize—viz., a gold medal. The best dishes were Golden Queen Grape, Souvenir du Congrès and Beurré d'Amanlis Pear, and Newton Wonder Apple. Mr. Bugg, gardener to A. Shuttleworth, Esq., staged remarkably fine Apples and several dishes of Pears. Gascoyne's Scarlet Apple was shown in fine form by Mr. Ellison. A few plants were brought together for inspection. The beautiful Begonia Gloire de Lorraine, Dendrobium phalaenopsis Schröderiana, Odontoglossum grande, and Cypripedium Spicerianum were the most interesting.

BIG POTATO CROPS.

"A. D." refers on page 245 to my trustful confidence in the Canterbury horticulturist who gave what he stated to be accurate particulars of the method by which Mr. Pink secured his colossal crop of Potatoes some years ago. Well, I said that "If he (the Canterbury man) was right, 'A. D.' was wrong." Does this sound like childlike confidence? More, I think, like a simple desire to show both sides of a much-debated question. "A. D.'s" attempt at irony is too weak even to bore me; but it is instructive as showing the spirit in which that put-'em-all-right gentleman receives the suggestion of a possibility that he may be in error, and I exceedingly regret that I should have been so thoughtless as to pen a line reflecting on his horticultural infallibility.

If, however, I have erred I see I have done so in distinguished company. On another page of the *Journal* "A. D." is up in arms at a prophecy about the rainfall. With much gravity he informs that misguided individual the clerk of the weather that a fall of 15 inches is too



FIG. 52.—LOBELIA RIVOIREI.

much, and that 5 inches would be much more suitable. Doubtless this intimation on his part will have a marked effect. I had certainly felt a little alarm myself when I read of the 15 inches; but, singularly enough, it never occurred to me to make a complaint in the right quarter, and therefore I must admire the superior foresight of "A. D."

While writing, may I add a word about Up-to-Date? Once again Mr. Findlay's great sort has proved what a grand Potato it is. With a robust habit, and tough, disease-proof leafage, it unites cropping qualities of the highest order. I have had none better this year, very few so good. It is rather early yet to test flavour, since, like many other of the late varieties, it requires some time to mature. Nevertheless, it was tried the first week in October against a number of varieties and came through the ordeal with flying colours. There is one, and only one, serious drawback to Up-to-Date as a garden variety, and that is the great size of the tubers. But this difficulty can be got over. The way to do it is to use small sets and avoid very rich ground. The former is the principal point. Seed of 1½ to 2 ozs, in weight is quite large enough if the Potatoes are for home use.

As a market kind Up-to-Date grows in favour, but, as the able farming authority of the *Journal* said to me some time ago, the ideal market Potato is one with the high qualities of the one under notice, combined with true kidney shape. The latter qualification Up-to-Date does not possess, nevertheless there are strong grounds for the claim of its admirers that it is "the Potato of its time."—W. PEA.



WEATHER IN LONDON.—Rain has at last come in appreciable quantities. There were showers on Friday night, with others on Saturday afternoon and evening. The heaviest fall, however, was on Sunday, when it rained unceasingly for several hours. Monday again brought showers, interspersed with gleams of bright sunshine. On Tuesday a drenching rain fell during the morning. At the time of going to press on Wednesday it was wet.

— **ROYAL HORTICULTURAL SOCIETY.**—The next Fruit and Floral meeting of the Royal Horticultural Society will be held on Tuesday, October 25th, in the Drill Hall, James Street, Westminster, 1 to 4 P.M. A lecture on "Experimental Horticulture" will be given by Mr. Geo. Gordon, V.M.H., at three o'clock.

— **LILIUM HUMOLDTI.**—At page 240 I was sorry to see that the cultivation of *Lilium Humboldti* was rather discouraged, as it is a favourite of mine. I think if your correspondents will plant this Lily in vegetable soil in partial shade, with rather damp subsoil, they will find that it will reward them. A clump at Oakwood this season was especially fine. Last year the severe frost about the middle of May cut the tops of the shoots when about 3 feet high, but some other Lilies shared the same unusual fate.—GEORGE F. WILSON.

— **NATIONAL AMATEUR GARDENERS' ASSOCIATION—LIVERPOOL BRANCH.**—On Thursday evening the usual monthly meeting was held in the Common Hall, Hackins Hey, Liverpool, Mr. Drake presiding. There was a good attendance of members, who took much interest in an excellent paper on "Dahlias," read by Mr. Cangle, one of the best known amateurs in the district. An interesting discussion followed, and a hearty vote of thanks was unanimously carried. The exhibits were above the average, and in sufficient variety to satisfy almost all lovers of horticulture. Two were singled out for special certificates—viz., a magnificent dish of Tomatoes, remarkable for weight, colour, and freshness. In addition to certificate and first prize the special prize was also granted to Mr. Ardran for this exhibit. The other recipient was Mr. Cangle, and the honour conferred was not too much for the superb blooms staged of that excellent and useful *Chrysanthemum Emily Silsbury*. The fruit classes were well contested, Mr. R. Muir winning with Williams' Bon Chrétien Pears, Mr. Tinsley with fine Warner's King Apples, Messrs. Tinsley and McMillan taking the smaller classes. There were several prizes offered for miscellaneous plants, these being won by Messrs. Hunt, Redfearn, Cangle, Drake, Histed, and Matthias. Messrs. Cangle, Cooper, and Smyth were responsible for the excellent arrangements, and altogether this branch seems to be improving each month.—R. P. R.

— **PLANTS AND ACETYLENE GAS.**—A few days ago there was a "private view" at the Botanical Gardens, Edgbaston, of the installation of acetylene gas, which had been introduced into the houses; in the first place for the purpose of a garden party given to the United Kingdom Band of Hope Conference, and also at the close of the garden party given by the Health Committee to the Sanitary Institute Congress. There was a large attendance of members of the Botanical and Horticultural Society and others, and the various demonstrations and explanations which were given were listened to with much interest. In the course of the evening the Hon. Secretary of the Gardens, Professor Hillhouse, took the opportunity of saying that in the interests of the Society he had studied the light from two points of view—injury to plants from evolved gases, and relations with colour. He had gone through the houses with the utmost care, and had failed to see the smallest sign of any of those injurious effects which the combustion of coal gas had upon plants, and in this conclusion the veteran Curator of the Gardens, Mr. Latham, entirely agreed. The second point for inquiry received an equally satisfactory answer. The most critical colours, so far as artificial illuminants were concerned, came out of the ordeal with success. The mixed shades of mauve and magenta, such as those of *Bougainvillea*, were at least as perfectly displayed as with the arc light, while the various shades of yellow, from pale to deepest chrome, which were possessed by such a flower as the *Allamanda*, could hardly be more distinguishable in ordinary sunlight.

— **HORTICULTURAL CLUB.**—The first dinner and conversazione for the session 1898-99 took place on Tuesday, 11th. The chair was occupied by Mr. Philip Crowley; and there were also present Messrs. Geo. Monro, James H. Veitch, Peter Kay, William Bassett, James Walker, Peter Veitch, J. Assbee, C. Mason, and the Secretary. A paper by Mr. George Bunyard was read, as owing to indisposition he was himself unable to attend. The subject of it was the fruit crop of 1898 and its lessons. It was very ably treated, and led to a very interesting discussion, in which most of those present took a part. The paper will appear in an early issue.

— **EXHIBITION QUALITY IN GRAPES.**—On page 289, "A. D." informs his readers that, "In nine cases out of ten big bunches are cut up in the pantry to three or four ere sent to the table." "Thus a big cluster hangs about the sideboard until the Grapes are stale." Will "A. D." be good enough to give some proof that the said assertion is a correct one? I venture to say that if "A. D." is a practical gardener, and has served in private places, he must know that, in at least 99 out of every 100 country establishments, Grapes never go into the pantry at all. No gardener, worthy of the name, would ever think of cutting huge bunches, to be afterwards divided into three or four and hung in the pantry sideboard until wanted.—OBSERVER.

— **JUDGING BY POINTS.**—In reply to your editorial note at the foot of my contribution on the above subject in last week's *Journal*, as to how I arrived at the higher figures of 121½ points to the second prize table, and 118½ to the first prize one. This is found by taking the points the judges awarded to the several kinds of fruit, and multiplying them by the number of dishes (sixteen) on each table. The duplicate dishes on both tables were remarkable for their evenness of quality. I enclose a tabulated list, which will explain matters.—EXHIBITOR. [The gummed part of the envelope was so firmly attached to the MS, that this was torn in extraction, the portion printed only being intact. It, however, represents the gist of the matter. If, as we understand, the case is to be submitted to the Royal Horticultural Society, its further public discussion may well rest in abeyance.]

— **PLANTS FOR MIXED BORDERS.**—I noticed recently when at Basing Park, Alton, numerous plants, some 24 inches in height, of *Calceolaria pinnatifolia*, a variety or species from South America, long introduced here, but still very seldom seen. It is an annual, easily raised from seed, and carries throughout the summer a great profusion of medium sized clear yellow flowers. It is also, because of its long stems, a capital plant to furnish flowers for cutting. This plant is well worthy the attention of the hybridist, as it seeds profusely. Another charming plant, specially so for its colour, is *Browallia grandiflora*, height 20 inches, giving pleasing blue tints, and also capital for cutting. A third most excellent plant is *Zinnia Haageana*, without doubt; to mix in borders or to form bold masses of orange yellow, the very best and most enduring of all annuals. This is largely used at Basing Park, especially in preference to bedding *Calceolarias*. Those who wish to have bold masses of yellow will do well to try this fine annual.—A. D.

— **MIDLAND DAFFODIL SOCIETY.**—Mr. Robert Sydenham sends us a schedule of the first show of this new Society, which he says is now fairly started on a hoped-for successful career. The Bishop of Worcester is President of the Society, and among the Vice-Presidents we note the Right Honourable Joseph Chamberlain, the Lord Mayor of Birmingham (C. G. Beale, Esq., M.A.), John Bennett Pöe, Esq., Chairman of the Narcissus Committee of the Royal Horticultural Society, and Rev. W. Wilks. The schedule is divided into sections—A, cut blooms; B, plants in pots; C, table decorations. There appear to be seventeen classes for Daffodils and Narcissi, a few being also provided for Tulips and Spanish Irises. More than a hundred prizes are offered, ranging from £4 to 4s., apart from Messrs. Barr and Sons' silver Daffodil cup, of original design by Mr. H. G. Moon, value 7 guineas, and a large silver medal given by the Birmingham Botanical and Horticultural Society as a champion prize for the greatest number of points obtained in specified classes. Other medals are also provided, to be awarded on the same lines—a first prize to count twenty-four points; second, eighteen; third, twelve; and fourth, six points. This is what we call a good start, and all who love spring flowers are invited to join the Society. The show, which ought to be a very beautiful one, is to be held in the Botanical Gardens, Edgbaston, Birmingham, on Thursday and Friday, April 14th and 15th, 1899. Mr. Robert Sydenham, Tenby Street, Birmingham, is Treasurer of the Society (an expert in finding and making money); the Rev. Joseph Jacobs, Whitwell Rectory, Salop, and Mr. Herbert Smith, Tenby Street, Birmingham, being joint Honorary Secretaries.

— **HONEYDEW.**—Observing an interesting note on Honeydew on page 247. in which the question is raised as to the correctness of the popular theory of its origin, I venture to raise another question, the cause of the blackness of the honey which bees collect from it. My belief is that it is due to smoke settling from the atmosphere on the sticky leaves and amalgamated with the honey. This theory would be refuted if any part of the kingdom, say in Norfolk or Devonshire, could be found quite free from smoky taint, whilst the honey, in honeydew years, is black. Here in Cheshire, though twenty miles from any serious smoke centre, the presence of smoke in plenty is only too easily shown. For instance, young shoots of the Scotch Fir, even on hills in the most rural districts, blacken your hands if passed over them; and the leaves of the Oaks and the Limes, when covered with honeydew, soon become visibly black.—C. WOLLEY DOD, *Edge Hall, Malpas, Cheshire.*

— **VEGETABLES AT THE ROYAL AQUARIUM.**—At the exhibition held last week in the above resort under the auspices of the National Chrysanthemum Society there was a remarkable display of vegetables. The general excellence and the quantity of the exhibits were the cause of much comment, and there can be little doubt but that they proved almost, if not quite, as attractive to visitors as did the Chrysanthemums. Prizes were offered for collections as well as for specified kinds and varieties, and very few weak examples were seen. The monster Onions from Mr. W. Fyfe, gardener to Lord Wantage, V.C., Lockinge Park, Wantage, were superb, the heaviest weighing 3 lbs. 10 ozs. The variety was *Ne Plus Ultra*, and the particular bulb turned the scale when first lifted at 3 lbs. 12 ozs. This, we think, is a record. The same exhibitor also sent others of exceptional merit, as also did Messrs. J. Masterton, T. Wilkins, and E. Beckett. The last named grower was a grand first for a collection of eight distinct kinds of vegetables, staging in his own well-known and attractive style. Mr. Lye of Sydmonton was a good second, and Mr. Pope of Highclere third. These exhibitors took most of the awards in the other classes. The prizes were given by Mr. Deverill, Banbury.

— Referring to the above Mr. E. Beckett, Aldenham House Gardens, writes:—"Considering the season the Onions staged at the above show must have surprised not a few. Many of the specimens were grand, and it is doubtful if finer have ever been brought together. Mr. W. Fyfe of Lockinge Gardens, Wantage, is to be congratulated on the great success he has achieved this season, being, I believe, his first attempt at competing for Onion prizes, and he must for the time being, I think, claim to be the champion Onion grower. At Birmingham he showed six and three dishes, and was easily first in both classes, and at the Aquarium he was well first in three of the principal classes; truly a fine record. In addition to this he staged, not for competition, wonderful specimens of a new variety of his own, named the 'Sirdar,' which is most promising, and *Ne Plus Ultra*, large and of grand quality."

ROYAL HORTICULTURAL SOCIETY.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair); Dr. H. Müller, Rev. W. Wilks, and Rev. Prof. G. Henslow, Hon. Sec.

Pear Leaves Diseased.—With reference to some leaves sent since the last meeting, Prof. W. G. Smith reports as follows:—

"The Pear leaves with rusty spots are attacked by a *Roestelia*, one of the group of *Uredinæ*. This fungus is one which completes its life-history on two host-plants. The leaves submitted are those of one host—the Pear. They bear two distinct kinds of rusty spots or areas—viz., smooth areas in which the leaf tissue is almost normal, and swollen areas with the leaf tissue abnormally increased and full of starch. The smooth spots are studded on the upper surface with black points, the pycnidia or spermatia; as a rule these were covered with a hardened film of what had been sticky masses of ejected conidia, generally blackened with smut or bearing saprophytic fungi. The swollen pustular areas also bore spermatia on the upper surface, and also partially developed *æcidium* cups embedded in the abnormally increased tissues of the lower half of the leaf. The imperfect development of these *æcidia* prevents me identifying the species of *Roestelia* exactly; it is probably *R. cancellata*. This fungus may also attack the fruit. The second host of this 'rust' is given as the *Savin* (*Juniperus sabina*), and it would be useful to know if this or an allied *Juniperus* occurs in this garden, also if they were perfectly healthy. The rust is a common source of trouble, especially a form which occurs on Apple trees. This latter is very injurious in the United States. American authorities advise removal of the second host, the *Juniper*, also destruction of badly diseased trees or branches. After these precautions are carried out Bordeaux mixture is said to give good results. It is used in two or three sprayings at intervals of eight to ten days, the first given as soon as the young foliage appears. It is also strongly urged to use varieties of Apples or Pears suited to resist the rust. These, of course, vary for different soils, and must be found out after making the necessary experiments in the locality where wanted."

Apple Diseased.—This was received from Mr. A. H. Pearson, Chilwell, Notts. Prof. Smith reports as follows:—

"The Apple sent me shows a 'fruit rot.' The primary cause is a fungus (*mycelium*) present in all the discoloured areas, but I should like to see other specimens before saying definitely what is the species. Several fungi have the same action in discolouring and softening the fruit; most of them also cause it to crack. When the flesh is exposed then the white and blue moulds present on your specimen make their appearance. They are common mould fungi (*Penicillium glaucum* and a *Mucor*, probably *M. piriformis*), and are not the cause of trouble, at least they have not yet been proved so by any one. The primary fungus is the one which has to be dealt with by remedies. The best preventive is probably Bordeaux mixture. It has been used in the United States, and results obtained appear satisfactory. The mixture is applied as a fine spray; the first application when the young foliage appears, the second after the fruit has set, the third two weeks later, and perhaps a fourth somewhat later. In your case, where the Apples are grown under glass, much might be done to hinder the progress of the fungus by free ventilation and dry air. The Apple sent seems to be a fine-skinned sort, hence it is all the more susceptible to fungus attack."

Apple with "Glassiness."—The Apples received from Mr. J. Vert, The Gardens, Audley End, have a peculiar translucent appearance. This is due to water having penetrated the intercellular spaces instead of air. No fungus is present, but the cause of the transfusion of water is not known. It is said to be highly esteemed in Italy.

Dahlias Crossed by Sunflower (?)—Mr. Lowe forwarded blossoms having a true Dahlia appearance, which he believes to be raised from seeds of a parent the issue of the above cross. Nothing, however, excepting a rather large disc appeared to indicate a cross. The relationship between a Dahlia and a *Helianthus* being relatively remote, any *a priori* probability of such a cross being effected is but slight. In experimenting it would be extremely difficult to prevent self-fertilisation, unless it be proved that the pollen is self-impotent in Dahlias.

Potato Decayed.—Samples were received from Mr. Veitch having peculiar outgrowths, and being much decayed within. They were forwarded to Prof. W. G. Smith for further investigation. Mr. Veitch described the presence of the disease as follows:—"It was first detected early in August, before we had much hot weather, and this is the only garden in the neighbourhood so affected."

Cure for the Lily Disease.—Mr. Horace Byatt of the Grammar School, Midhurst, Sussex, writes to say that he has found flowers of sulphur to be an excellent remedy for this troublesome fungus. "In the autumn of 1896 I removed the sets of bulbs from the ground, and when they were somewhat dry I put them, a few at a time, into a large brown paper bag, in which was a supply of flowers of sulphur. They were then well shaken until the powder got thoroughly into the crevices, after which they were planted. Last season they showed a marked improvement in the blossom heads, which were weakly, though almost free from disease, and now I have the pleasure of seeing them perfectly healthy, with fine green stems and leaves, promising good blossoms, while the rest of the groups have not a single blossom."

Colours of Flowers and Drought.—Rev. W. Wilks made the following observations on the colouration of flowers of the present season. Similar changes were recorded in "Nature" last year by Mr. Hughes-Gibbs of Tarrant Gunville, Dorset:—"All through the exceptionally hot weather of the end of July and August all scarlet flowers had a tinge of dull brown in them, pink had a shade of orange, yellow was very yellow, white was creamy. This was very marked—e.g., in Dahlias. Thus *Fire King* and *Sunset*, two ordinarily bright clear scarlet flowers, had a distinct dull brown tint overlying and spoiling utterly the usual scarlet, so much so that having been away from home the first three weeks of the heat, I thought on my return the Dahlias must have somehow got wrongly named. But now the weather is cooler the bright scarlet has come back, and the dull brown tint has gone, and all is as usual. The only colour the heat seemed (to me) to suit was the salmons, and they have been very fine and intense, having a sort of glow added to them."

West Indian Junipers.—Dr. Masters showed specimens of a *Juniper*, native to Jamaica, which he had received through the kindness of Mr. W. Fawcett, the Government botanist of the island. This species had been referred to the *J. burmudiana* of Linnæus, with which *J. barbadensis* of the same author is taken to be synonymous. On comparison the Jamaica *Juniper* is seen to agree very closely with *J. virginiana*, the so-called Red Cedar of the mainland of North America from Canada to Florida. This species furnishes the best "cedar" wood for pencils, and many forms of it are cultivated in English gardens. The resemblance of the Jamaica plant to the American is so close that Dr. Masters does not hesitate to include them both under the same name of *J. virginiana*.

Dr. Masters also showed specimens and wood of the true Bermuda *Juniper*, received from A. Haycock, Esq. The history of this plant, which differs greatly from the preceding, has been cleared up by Mr. Kemsley, in the "Gardeners' Chronicle," May 26th, 1883, p. 657.

Tomatoes with Bulbiferous Stems.—Mr. Wilks exhibited specimens of Tomato plants, grown against a wall, which bore small bulb-like protuberances on the stem close to the insertion of leaves. From each proceeded a small leafy shoot. An anatomical examination showed that they were formed by an excessive growth of cortex and medulla, the fibro-vascular cylinder being somewhat enlarged as well. It was suggested that experiments should be made of growing the shoots from the bulb-like processes, to see if they would give rise to a perennial form.



CYPRIPEDIUMS FROM ABERDEEN.

I AM sending you two forms of *Cypripedium Charlesworthi*, which I think are very good ones. No. 1 is large, but the dorsal sepal recurves a little too much. No. 2 is more compact, and the colour is good. I also enclose a variety of *C. Curtisi*; it is not so large as the one previously sent, but I like it better, as the flower is more compact. We have a nice show of Orchid bloom here with *Cattleya labiata*, *C. aurea*, many forms of *Cypripedium insigne montana* section, including the yellow *C. insigne Balliana*, also *C. Arthuriana*, *C. vexillarium superbum*, *C. Chas. Canham*, *C. oenanthum superbum*, and other hybrids, some of which have been raised here, and are now blooming for the first time. There is a good promise of flowers right through the winter. *Laelia arceps* is showing well, and on some of the spikes of *L. autumnalis* are six to seven blooms.

We have scarcely felt the drought, and have not once run short of rain water during the season. Vegetables are looking remarkably well, especially winter crops, and Potatoes are first-rate. We are still gathering Peas. Carnations, Dahlias, Begonias, Tea Roses, Sweet Peas, and early flowering Chrysanthemums are giving us plenty of flowers outside. There has been no frost here yet to injure anything. —G. W. CUMMINS, *Balmedie, Aberdeen*.

[Each of the *Cypripediums* sent has good points. The variety of *C. Charlesworthi* numbered 2 is very fine in the dorsal sepal, this organ having form, colour, substance, and size. We agree with the observations respecting the flower of *C. Curtisi*.]

CATTLEYA MAXIMA.

THE specific name of this Orchid is not appropriate at the present day, no matter what it was at the time of naming. There are many species with larger flowers, though doubtless when first discovered it was one of the largest, if not the largest flowered species, known to botanists. It cannot be styled a first-rate kind, but is useful in keeping up an autumn display. The habit is rather tall, the flowers occurring about six on a tall peduncle, and their colour is a bright rose with a yellow centre to the lip and several deep purple lines running from this to the margin.

C. maxima is very little grown, but in an intermediate house will usually be satisfactory if the ordinary routine of Orchid culture is carried out with it. Flowering as it does on the apex of the young growth it is advisable to keep it at rest when these are past. It will not need drying off entirely, but a greatly reduced water supply is necessary from November until the growths start in spring, when the plants may be repotted if they require it, using a rough open compost and draining the pots thoroughly. *C. maxima* is one of the oldest known species, having been discovered far back in the eighteenth century by the Spanish botanists Ruiz and Pavon. It was not introduced until Hartweg collected it for the Horticultural Society in 1842.—H. R. R.

GRAPES AT MELTON CONSTABLE.

MUCH has been written in the horticultural press, especially in the *Journal of Horticulture*, on the subject of "express" Grape culture, or producing large crops of Grapes in—to some persons—an incredibly short space of time. I must confess to experiencing strong feelings of scepticism upon many occasions when reading of the wonderful results chronicled. I recently had an opportunity of inspecting an example of the method of culture in question, practised in an eminently satisfactory manner. So much was I impressed with the object lesson, that all my late "scepticisms" have been shattered, and I now range myself unhesitatingly on the side of the "express" system.

Calling one day in August on Mr. Shingler, the able gardener at Melton Constable, in Norfolk, one of Lord Hastings' charming seats, and of which he is so justly proud, I was not prepared for what I there saw in the excellence of the Grapes, or the method employed in producing them. In the autumn of 1894 four new vineries were erected, each 95 feet long and 20 feet wide, span-roofed, standing parallel to each other, and running north and south, so that all sides obtain an equal amount of light and sun. They are so contrived that the channel or spout between any two houses carries off the water from the roofs of both. It will thus be perceived there are no outside borders, the roots being entirely confined within the houses.

In construction, abundant light, consistent with strength, was the main object. The height of the vineries admits of 14 feet rafters, and

hence provides space for a sufficient length of rod to carry a substantial weight of fruit. Instead of planting thirty Vines on each side of every house, in the orthodox manner, as many cultivators would have done, thus requiring no less than 240 Vines—a serious item in expenditure—Mr. Shingler only planted twenty-four, six in each house, for permanent bearing. True, he planted six supernumeraries in each house, but so little progress have they made (for reasons I will state later) that they might easily have been dispensed with. The permanent Vines were planted in the spring of 1895, one in the centre of each side, the remaining four a few feet from each end. The object was to fill each house with six Vines only, three on each side. So successful has been the growth, that the object has all but been attained already. The first year Tomatoes were grown between the Vines, evidently without prejudice to them, and thus the space was thoroughly utilised.

No. 1 house is planted with four Vines of *Madresfield Court* and two of *Gros Maroc*; No. 2, with *Muscat of Alexandria* entirely; No. 3 contains four *Alicante* and two *Gros Colman*; No. 4 house has more variety—two *Gros Colman*, two *Gros Maroc*, one *Lady Hastings*, and one *Alnwick Seedling*.

The borders are being made on the "piecemeal" system. Mr. Shingler is of opinion that very often more rooting space is given to Vines than is either necessary or desirable. He pursues a restrictive policy in this respect. Even now, after four years vigorous growth, a border space of 15 feet in length and 10 feet wide only, is provided for each Vine. The borders are 3 feet deep, 6 inches of this being drainage on a bed of concrete.

In the preparation of the compost due attention was paid to the composition of the natural soil. As this was destitute of lime, considerable quantities of old lime rubble and burnt refuse, with some slaked lime, were mixed with turf cut from a pasture. This formed the whole of the compost; no manure of any kind was added. The border was made quite firm, so that the roots could not penetrate through the soil rapidly in quill-like fashion. Firm soil is admittedly a precursor of fibrous tissue, and this is what all successful Grape growers seek to produce.

The training of the Vines was so arranged in pruning that two, and in some instances three canes were allowed to extend the first year for providing future rods. Where three canes were provided one was trained directly up the roof, the others horizontally along the bottom wire to the right and left of the main stems. From the horizontally trained basal rods growths at intervals of 3 feet and 4 feet, according to the varieties, were trained directly up the roof. Overcrowding of the growths was strictly guarded against, and the result is magnificent foliage, thick and leathery to the feel without undue grossness, while the colour is all that could be desired; no paleness or lack of chlorophyll here.

Mr. Shingler is a believer in ample foliage, but it must be of the right kind. In his opinion one good leaf, thoroughly exposed to light and air, is worth a dozen of a flimsy character with attenuated stalks—the effect of huddling so many together, each struggling with its neighbour, and all suffering in the contest. When pruning the young Vines thought is given to the production of even-sized bunches over the entire length of the future rods. Good culture consists in insuring bunches for twenty years as large at the base of each Vine as near its extremity. This can only be realised by discrimination in the annual pruning of the leaders. If young Vines are allowed to retain, say, 6 feet of growth yearly, the base or lower portion of the Vine cannot yield in years to come bunches as large as those nearer the apex. Restriction of the leading canes to a reasonable extent annually is a policy well worth practising. Mr. Shingler too well understands the capacity of young Vines to over-tax and cripple them during their infancy. In laying the foundation of those in question a 3 feet length of leader was allowed. Now 2 feet is considered sufficient to produce an annual crop of sufficient weight for the Vines to endure creditably.

Now as to the results attained. The year after planting—viz., 1896—each Vine was allowed to carry from twelve to fourteen bunches; the year following, 1897, twenty-five bunches were taken from each Vine. The present year I witnessed and took careful notes of the crop. *Alnwick Seedling* was bearing forty-three well-developed bunches, with full sized berries, the colour being all that could be desired. *Alicante* was laden to the extent of forty bunches, many weighing 5 lbs., and several 7 lbs. As is customary with this variety when the Vines are young the bunches were in some instances a trifle loose and ill-shapen; the colour of the berries was perfection, carrying as they did a profusion of bloom. *Gros Maroc* had the largest berries I have yet seen of that variety, and the colour left nothing to be desired; the flavour, too, was distinctly passable. *Gros Colman* was easily supporting its forty bunches, many of which would turn the scale at 6 lbs., and such berries! uniform in size, colour, and finish. In this case the rods were 4 feet apart, thus allowing ample space for the full development of the characteristic growth and foliage of this

imposing variety. Perhaps the most remarkable result of all was in the case of Muscat of Alexandria. One Vine was carrying sixty bunches, many weighing upwards of 4 lbs. each. The berries were large, and carried that charming amber tint that is so gladdening to the heart of cultivators.

One Vine of Lady Hastings represented this new Grape in its best condition. It originated at Melton as a sport from Muscat Hamburg. In appearance it is much like Madresfield Court in the shape and colour of the berries as well as in formation of bunch. The flavour of

of the confidence displayed in it one of the largest Grape-growers for market is planting a large house with it entirely.

Mr. Shingler, as a Grape-grower, is a firm believer in the encouragement of surface roots, and judging from the network immediately under the surface, he knows how to produce them. An annual mulching of cow manure in the spring incites the multiplication of their food-imbibing organs. Mr. Shingler speaks highly of Dicksons' Vine manure; it is applied in a liquid state, dissolving it overnight, and saturating the soil occasionally.



FIG. 53.—SEEDLING GRAPE—LADY HASTINGS × GROS COLMAN.

the parent is preserved in its progeny in a remarkable degree. Fertilisation appears to be easy, for the berries are evenly "set," and there is no cracking of the skin; a defect with Madresfield Court in not a few instances, though some people say it is the fault of its cultivators.

The foliage of Lady Hastings is quite distinct from any variety with which I am acquainted. The only fault that I can urge against this Grape is its somewhat tough skin. This defect, however, is not so noticeable in fully ripened specimens. As a September and October Grape this newcomer should be much in request. As a proof

I referred earlier in my notes to the unsatisfactory condition of the supernumerary Vines. These were planted without any special border preparation, and although the growth is vigorous, amounting in some instances to grossness, there is an entire absence of maturity in either wood or foliage. The colour of the leaves is exceptionally pale, while the few bunches of fruit produced are poor in the extreme, the berries being small and flavourless. This failure is attributed to the unsuitability of the natural soil for Grape culture, owing to the entire absence of lime.

Mr. Shingler has apparently a strong penchant for intercrossing

Grapes, and as a result several are seedlings under trial, and will no doubt be heard of later when more fully developed. The fruit of one Vine, the result of a cross between Gros Colman and Lady Hastings, bore a striking resemblance to the former in appearance, embodying a strong touch of the Lady Hastings' flavour.* If this quality can be perpetuated a distinct gain will be the result. A Vine from Muscat of Alexandria and Gros Maroc was exhibiting features of interest. Taken as a whole the Grape culture in this garden demonstrates that the routine is thoroughly understood by Mr. Shingler. A word of praise, too, is due to the young man in charge for carrying out the details so intelligently. It would be difficult to find Grapes better thinned than the bunches are at Melton Constable. It is clear that Lord Hastings has good men in his cherished garden, and his lordship is certainly highly esteemed by them as a master.—E. MOLYNEUX.

[* Mr. Shingler has sent us a fine bunch of this Grape from a Vine in a pot. We illustrate the point of the bunch with exactitude, berries a little rubbed in transit. We have never seen such berries produced by a pot Vine. One of them taken from the shoulder measured $4\frac{3}{4}$ inches in circumference, and several $4\frac{1}{2}$ inches. A few berries of Lady Hastings were remarkable by their intensified Madresfield Court flavour. The skin, as suggested, was thick. Mr. Molyneux knows good Grapes when he sees them; he has not often seen finer than at Melton Constable, and Mr. Shingler is to be congratulated on their production.]

INTERMEDIATE STOCKS.

THE observations by Mr. Picker on page 246, with respect to the deterioration or degeneration of double-flowering Stocks and Asters, are deserving of something more than passing notice, as they are doubtless of interest to many growers whose recent experience has not widely differed from that of himself. Others may be able to explain more particularly the cause of their deterioration better than myself, but the mention of Intermediate Stocks leads me to offer a few remarks based on some personal knowledge of the continuous care necessary to be exercised in perpetuating the best double strains of these flowers.

Obviously they can be produced quite as well and as certainly at the present time as they were fifteen or more years ago, when, as your correspondent remarks, really good strains of them were readily obtainable. As self-coloured fragrant flowers they are just as beautiful now as they were then, but alas! it is written of them, "they have sadly deteriorated." It is as though they missed, as pet plants, some of the particular attention they formerly received at the hands of the older growers of them, whose aim it was to make them more consistently double, and keep them so.

The process by which this was, in great measure, accomplished, was by extermination and selection, the rejection of the inferior and the selection of the fittest flowers for the purpose of seeding. It can be easily imagined what a fine crop of seed could be harvested from a strain producing 60 per cent. of plants having single flowers, and these are the figures given by your correspondent, and his experience of them doubtless accords with that of others who, like himself, would fain renew the pleasure afforded by the cultivation of the older strains of these flowers in years gone by.

A long time ago I was smitten with a fancy for them, and then had the good fortune to become possessed of very satisfactory strains of three varieties, all of them remarkable for the large proportion of plants producing double flowers year after year; more notably was this the case with the purple, which was of a very delightful shade. Now it is in respect to this last one that some interest attaches, and that has led me so far with this infliction. These improved in doubleness under cultivation in pots, until finally only a dozen or so "single bloomers" appeared in a collection of more than 200 plants, and of these a few only were considered to be good enough to retain as seed producers. This incident is mentioned simply to illustrate the difficulty of perpetuating a really good strain of Intermediate Stocks as compared with the ease with which a plentiful supply of seed can be obtained from a strain in which single flowers appear in excess of the double ones.

Notwithstanding the great care exercised in saving seed by some growers, it was their custom to sow only a portion for trial of a certain season's growth, and when by this means they had ascertained its quality the bulk would be reserved for future general sowings. Doubtless it is the promiscuous saving of seed for commercial purposes that tends so much to the rapid degeneracy of some strains of seeds, more particularly with those who rejoice rather in having "a good crop" than in preserving the qualities that the perseverance of others has effected, and that may have contributed most to their popularity. However, it is gratifying to know that some of the best strains of them are not yet entirely extinct, and we may still count on again regaling our senses with the delight that, like the flowers that brought it, still refreshes our remembrances.—J. E. J.



CHRYSANTHEMUM SHOWS.

As is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the coming season. Space, however, can only be found for mentioning those that have been advertised in our columns. We append the dates of such fixtures, with the names and addresses of the various secretaries.

- Oct. 27th and 28th.—EXMOUTH.—R. Pearce, Chippenham Lodge Gardens, Exmouth.
 Nov. 1st and 2nd.—CROYDON.—W. B. Beckett, 272, Portland Road, South Norwood.
 „ 1st and 2nd.—KINGSTON.—W. D. Elsam, Clarence Chambers, Kingston-on-Thames.
 „ 2nd and 3rd.—ASCOT.—Henry C. Needham, The Glen, Ascot.
 „ 3rd and 4th.—MAIDENHEAD.—J. W. Stone, Cookham Dean, Maidenhead.
 „ 4th and 5th.—BATTERSEA.—J. O. Langrish, 167, Elsley Road, Battersea, S.W.
 „ 8th, 9th, and 10th.—ROYAL AQUARIUM (N.C.S.).—R. Dean Ranelagh Road, Ealing.
 „ 9th and 10th.—HANLEY (Staffs).—J. and A. Kent, Hanley Park.
 „ 9th and 10th.—LIVERPOOL.—Dickson and Sadler, 7, Victoria Street, Liverpool.
 „ 9th and 10th.—CARDIFF.—H. Gillett, 66, Woodville Road, Cardiff.
 „ 11th and 12th.—ALTRINCHAM.—E. C. Moore, 22, Railway Street, Altrincham.
 „ 11th and 12th.—HUDDERSFIELD.—J. Bell, Marsh, Huddersfield.
 „ 11th and 12th.—ECCLES.—H. Huber, Hazeldene, Winton, Patricroft.
 „ 11th and 12th.—BRIGHTON.—Secretary, 1, Dyke Road Drive, Brighton.
 „ 11th and 12th.—BRADFORD.—R. Eichel, 16, Westcliffe Road, Shipley.
 „ 15th and 16th.—BELFAST.—J. MacBride, Victoria Square, Belfast.
 „ 15th and 16th.—LEEDS.—James Campbell, The Gardens, Methley Park, Leeds.
 „ 16th, 17th, and 18th.—BRISTOL.—Edwin J. Cooper, Mervyn Road, Bishopston, Bristol.

NATIONAL CHRYSANTHEMUM SOCIETY.

ROYAL AQUARIUM v. CRYSTAL PALACE.

IT may be in the recollection of our readers that a sub-Committee was appointed by the N.C.S. to consider, among other things, the most suitable places for holding the Society's exhibitions. We believe the report of this Committee was presented to the Executive on Monday night, with the result that, though the recommendations of the Examining Committee, who had devoted much time in inspecting various buildings, almost unanimously favoured the Crystal Palace as the most suitable building for the purpose in question, they were, we understand, rejected, notwithstanding that the financial grant of the Palace would have equalled that of the Aquarium. It is a matter of indifference to us where the shows are held, but it is an extraordinary event for a special Committee to be snubbed for their pains in the manner that has fallen to the lot of Messrs. Bevan, Crane, Moorman, Simpson, Taylor, and Waterer, all of whom are said to have been in favour of the Crystal Palace, Mr. Ballantine alone voting for the Aquarium; the Secretary, though against any change, having no vote. The work of the sub-Committee seems to have been regarded as very much of a solemn farce. Mr. Dean, however, and his little band of workers are said to have had the honour of dining with the General Manager of the Crystal Palace, with a view to negotiations, so their labours were not entirely in vain.

FLORAL COMMITTEE.

THE Floral Committee of this Society held a meeting at the Royal Aquarium, Westminster, on the 11th inst., when Mr. T. Bevan occupied the chair. The following novelties were awarded first-class certificates—viz.,

Mr. F. Brewer.—A very large incurving Japanese, with deeply grooved florets of great length and very broad, the centre being deep golden yellow, with a reverse of pale straw yellow. Shown by Mr. R. Owen, Maidenhead.

Reginald Godfrey.—Japanese of close build, with flat reflexing florets, colour reddish terra cotta, reverse golden. From Mr. Godfrey, Exmouth.

Soleil d'Octobre.—A useful October flowering show Japanese, of good build and substance. Colour, pale canary yellow. Also shown by Mr. Godfrey.

Rayonnante.—A large tubular-petalled Japanese, with very long erect florets, forming a spreading flower something similar to the old variety Gloire Rayonnante, but much better. Colour, pale pink. Exhibited by Mr. H. J. Jones, of Lewisham.

SHEFFIELD CHRYSANTHEMUM SOCIETY.

ON Wednesday evening the 12th inst. the last meeting of this Society, prior to the annual exhibition on the 11th and 12th November, was held in the Society's rooms; Mr. J. G. Newsham presided. A discussion on Tomato culture was started by Mr. Hy. Slaney (professional) and Mr. W. Donaldson (amateur), in which a number of members took an active part. The methods recommended differed considerably in details, so that the novice was left somewhat in doubt as to which method to adopt, but as most of the speakers exhibited good dishes of the fruit, each was entitled to be placed amongst the list of successful cultivators.

Some good dishes of Tomatoes were exhibited by the members competing for the monthly prizes. Messrs. J. Dixon, T. Morton, and C. Scott secured the professional prizes, and Messrs. W. Marsden, W. Donaldson, and A. Barton were awarded the prizes for amateurs. Some time ago the large room used by the Society was dismantled, and the valuable collection of stuffed birds and animals was sold. Since that time the Society has been put to considerable disadvantage for want of a room large enough to accommodate the members attending the general meetings. It has, therefore, been decided that the Society should remove to more convenient premises, and in future the meetings will be held in the Westminster Hotel. The meeting closed with a vote of thanks to the speakers and the Chairman.—J. H. S.

CHRYSANTHEMUM LEAF RUST.

I WAS much interested in reading the report of the papers read at the conference instituted by the N.C.S. upon the above subject in the Journal of the 13th inst., page 287. There is a statement in Mr. P. Waterer's paper which I cannot understand, and which I was surprised to see escaped criticism in the discussion which followed. In the last paragraph but one of his paper that gentleman says he had tried many things to kill the spores, and among other things he says, "Steeping the foliage in neat paraffin for nearly a week. . . . All had failed." Surely Mr. Waterer cannot be serious in this; at any rate, I venture to state that no living foliage could survive such treatment. What becomes of the spores Mr. Waterer does not tell us. On the next page another gentleman says he has found a tablespoonful of paraffin mixed with 2 gallons of water an effectual remedy for the rust. What a contrast.—R. M.

CHRYSANTHEMUMS IN THE SOUTH.

HAVING the opportunity of a three days' holiday I wended my way to Ventnor, and enjoyed the fine sea breeze. In the early morning on my walk out along the undercliff I came to Messrs. Drover & Son's upper nurseries, where I found Mr. H. Drover cutting Grapes for the shop. There are three ranges of Grape houses 100 feet long. Black Alicante bunches average 1½ lb. each, and well finished. The other houses contain Black Hamburgh and White Muscats, both well finished. Erected under the St. Boniface Down these are the highest fruit houses in the Isle of Wight. The soil is of light marl, interspersed with broken rock. There is also a range of Peach houses, which show fine wood for next season's fruits.

The lower nurseries are devoted to the production of flowers for cutting, double Primulas, Cyclamen, and pot Roses being well grown. About 500 Chrysanthemums are there in 9 and 10-inch pots. The Queen family struck me as being especially good; height about 6 feet, foliage bright green to the base of the stems. Among the fine Japanese plants I noticed the following showing colour:—Phœbus, Royal Standard, Hairy Wonder, Mrs. A. G. Hubbuck, Australian Gold, Mrs. Palmer, Mad. Edmund Roger, Princess Charles of Denmark, N.C.S. Jubilee, President Nonin, Surpasse Amiral, Georgina Pitcher, E. Molyneux. Mr. H. Drover is at home amongst his Chrysanthemums, and looks after them himself, and by the appearance of their fine buds, the blooms may be expected to come to the front at the Isle of Wight shows.

I left Ventnor by the early train next morning for Southsea, arriving there about 9.30, when I went over the Dockyard, a sight I shall never forget. I then called on Mr. William Adams at the Clarendon Nurseries, East Southsea. He was housing about 400 plants in a long lean-to vinery. Mr. Adams was brought up by his uncle, Mr. Drover, at Fareham, and he dressed the incurved blooms which won the centenary prize, and the prize given by the proprietor of the *Journal of Horticulture*. The plants, on the whole, have a good appearance; are rather under the average height if anything, and full of promise for quality when the time comes. In addition to old favourites, I noticed Mdlle. Lucie Faure, Madame Ferlat, Duchess of Fife, Mrs. N. Molyneux (grand), Emile Nonin, King of Yellows, Egyptian, George

Haigh, J. Pearce, Mrs. F. Hepper, Mons. Desblanc, Yvonne Desblanc. Among the Japs were the new President Nonin, Surpasse Amiral, Belle of Castlewood, Mary Molyneux, Princess Charles of Denmark, and Mrs. A. Bevan. Mr. Adams grows more of incurved, which is his favourite and speciality. Should the plants go on as now looking so promising, no doubt growers will hear of Mr. W. Adams later on.

From thence I went to Fareham, and found 700 plants grown for specimen blooms and 1000 for cut blooms later. The plants look excellently well, and the buds are what most experienced growers would call about right, being taken at various times to prolong the display as late as possible. Very promising are Australie (good), Mrs. H. Wheeler, Mrs. G. Gover, Hairy Wonder, President Nonin, Belle of Castlewood, Georgina Pitcher, Madame E. Roger, Mary Molyneux (very fine), Royal Standard, Ella Curtis, Miss E. Addison, E. Molyneux, Phœbus, and N.C.S. Jubilee. The incurved are grown in masses of one sort of the best varieties, the Queen and Princess family looking well. Mdlle. Lucie Faure, Madame Ferlat, Mrs. Egan, Austin Cannell, King of Yellows, Mrs. N. Molyneux, Miss V. Foster, Miss D. Foster, Globe d'Or, N. Petfield, Duchess of Fife, Egyptian, Rose Owen, Rena Duli, Leonard Payne, and Golden Nugget were amongst the best. Messrs. Drover do not exhibit now. I was much pleased with my visit, and arrived home midnight.—BURTON-ON-TRENT.

CHRYSANTHEMUMS IN THE WEST.

THE usual reports of famed collections are looked for by Chrysanthemum specialists in the Journal. There has generally been a record given by enthusiasts of the doings of some of the many leading growers before this date. Presumably the prolonged drought, and the attendant inconvenience and labour, concentrate the thought and time of those who undertake visits for inspection and report; it cannot be that the interest in them is less active than heretofore. The Rose and Dahlia specialist, as well as the general reader, have been well and duly catered for, so that the "Mum" grower may well say his turn has now come for both notice and information in regard to the work of others. The leaf-rust fungus evidently has not left us, as was hoped earlier in the season, many instances having been recorded of late.

The most conspicuously successful representative among chrysanthemists in this neighbourhood is Mr. Robinson, gardener to the Rt. Hon. Lord Ludlow, Heywood, Westbury, where for several years they have been made a specialty of, and, needless to say, well cultivated, and judging by the present condition of the plants the reputation of Heywood promises to be well maintained. Taken collectively, I do not remember finding a more hopeful prospect than that which Mr. Robinson's plants afford this year. Out of about 450 I do not find more than a couple of doubtful ones, which, considering the nature of the season, both from insect and drought troubles, is very commendable, and clearly show that the simplest detail is not neglected in their management. Many of the plants have retained their foliage almost to the rim of the pot, and the depth of colour in the leaves and stems bespeak good feeding and perfect maturity. The buds, too, are altogether devoid of that coarseness sometimes seen; the bud selection proves the value of careful study and prompt manipulation.

So numerous and uniformly good did I find the collection that it was with difficulty I could condense the numerous sorts into a limited space in my notebook. Those more conspicuous for having splendid buds are Madame Carnot and its sport Mrs. Mease, Lady Hanham, Joseph Chamberlain, Mary Molyneux, Mons. Hoste, Ella Curtis, Mrs. White Popham, Madame G. Bruant, Miss Nellie Pockett, Swanley Giant, Oceana, Robert Powell, Duke of Wellington, Vicomte R. de Chezelles, and N.C.S. Jubilee.

These were singled out as being extra fine, though perhaps an equally good account may be given by the following:—Vivian Morel, Chas. Davis, Edwin Molyneux, Madame G. Henri, Soleil d'Octobre, Elthorne Beauty, M. Chenon de Léché, Mutual Friend, Madame X. Ray Jouvin, Milano, Mrs. J. Lewis, G. Pitcher, Werther, W. Towers, John Pockett, Chatsworth, Joseph Brooks, John Neville, Phœbus, Primrose League, and G. J. Warren. These represent the cream among the Japanese section. The incurved, though less numerous, are equally fine. I noticed the following as being the most striking:—Chas. Curtis, Austin Cannell, Ernest Cannell, Duchess of Fife, Miss Violet Foster, Miss D. Foster, Mrs. N. Molyneux, Mdlle. Lucie Faure, Madame Ferlat, Lady Isabel, T. Lockie, Mrs. R. C. Kingston, Bonnie Dundee, Mrs. A. E. Stubbs, The Egyptian, G. Haigh, R. Petfield, Yvonne Desblanc, Ma Perfection, and Wm. Tunnington.

What are known as the Queen and Princess families are represented by fewer numbers this year, their places being taken by others of modern introduction. They are, however, in the pink of condition, and may even now prove rivals to some of those for which, in numbers, they have been forced to find places. Mr. Robinson is deserving of congratulation on the excellence of his work, and by no one more heartily than one who is only an occasional—VISITOR.

CHRYSANTHEMUMS AT THE ROYAL AQUARIUM.

HAVING paid a very brief visit to the excellent October exhibition of the N.C.S. held at the Aquarium, Westminster, I noted some of the most attractive and newest varieties, and append the names of a number selected from the various exhibits. As may be seen from the reports in the horticultural papers, the large Japanese varieties predominated, even so far as to exclude the usually representative collections of the early outdoor flowering varieties. There were some of the latter exhibited, including many new varieties. In one display they simply served as a groundwork and a fringe of cut blooms to set off the larger flowering varieties in pots. The plants in all cases were remarkably dwarf and sturdy, as well as carrying good blooms, and represented high-class culture.

As there is no doubt but that interest centres most in the large flowering Japanese varieties I will commence with them, first remarking that many of the exhibited favourites of previous years were included in the various exhibits. Edwin Molyneux, for instance, was splendidly shown, also Mrs. C. H. Payne, Madame Gustave Henri, Elthorne Beauty, Emily Silsbury, Mutual Friend, and Oceana.

Soleil d'Octobre, which last year was shown in fine sprays as a rich canary coloured decorative variety, this season appears as a deep, full exhibition bloom, equal to many of the best which can be had in the middle of October. It is a doubly useful variety, coming so good when grown specially for exhibition or to furnish sprays of bloom with long stems. N.C.S. Jubilee, one of last year's novelties, was well shown. The flowers were full, richly coloured, the petals being broad, pale mauve, with a silvery reverse. Melusine is new, and has long drooping petals, light rose striped lilac with deep shaded centre. Ella Curtis is a pale yellow, with broad petals, curving and recurving, but some blooms showed bad centres.

President Nonin, a chainois yellow, reverse of petals straw colour, produces good flowers 7 inches in diameter. Miss Nellie Pockett, one of the new Australian varieties, creamy white, was pure and good in colour. The petals were narrow, curly, long, and drooping. Robt. Powell, a Japanese incurved, had excellent flowers, reddish chestnut in colour with a golden reverse; petals broad. Le Grand Dragon is a rich yellow full flower with long drooping petals; an exceedingly good variety. Topaze Orientale is a pale yellow with recurving petals, deep yellow in the centre. M. Aug. de Lacvivier, yellow and bronze, yellow reverse, is an incurving Japanese.

Parachute, old rose, carmine, and salmon centre, is of medium size only, but very attractive. Mrs. Tom Barton is a splendid new variety which promises well; deep silvery purple. Rayonante is a large, novel, and attractive flower of a style familiar in Lilian B. Bird. The colour is better than in that variety. It is pale rose, with narrow, long, and spreading florets. Mrs. M. Grant is a primrose yellow with drooping and incurving petals, large flowers on good dwarf plants. Mrs. G. A. Haines, another deep rich yellow, has curly and incurving petals; fairly large flower. Mr. A. Barrett has streaky red petals, drooping and incurving; medium sized flower. Mrs. J. P. Bryce, colour bronze, yellow reverse, has incurving florets, and is a fine flower. Eastman Bell, a sport from President Borel, promises to be good. The colour is a deep reddish bronze with yellow reverse broad petals; incurving full flower. Wm. Towers, primrose yellow with rather narrow partly fluted petals, makes a fine flower. Mons. Fatzer is a good yellow with broad incurving petals, large, fine flower. Lady Isabel, an incurving bluish white, is a moderately large flower. Madame Fortune has narrow forked petals bronze and yellow; large and fine blooms.

Madame Philippe Rivoire is a splendid creamy white, having long drooping petals, the centre incurving and tinged with yellow. Autumn Glory has large blooms, rosy pink in colour, with loose long petals. Lady Ellen Clarke may be described as a white Mrs. C. H. Payne. The blooms are large, the incurving petals short and narrow in the centre, where they are tinged green and yellow. Souvenir de Madame F. Rosette, a deep purple flower with a silvery reverse; broad florets, incurving centres; fine flower. Lord Wellington is a deep bronzy yellow variety with bronze reverse; broad incurving petals; splendid blooms. Madame Paladine, a large curly petalled variety, is silvery white. The blooms are large. General Paque is a large spreading flower, of a rich bronze and yellow colour, and regularly drooping petals. Madame La Colonel Germer Durand is an extremely pretty and large flower; white, with purple streaks. Amité de L'Agriculture Nouvelle is another charming variety, yellow with crimson streaks. M. Piquemal de Roseville is reddish bronze with yellow reverse, petals incurving; very full flower. Souvenir de Molins is a large flower closely packed with petals, deep yellow and bronze. Lady Byron is a white incurving flower, with greenish yellow centre. Chatsworth has silvery white rosy tinted streaked flowers, with incurving and drooping petals.

The following seedling varieties of 1898 appeared to be promising. Alfred Richardson, white, narrow florets, long and drooping; Kate Howard, white, broad florets curled, fine full bold flower with plenty of centre to develop, rather green; Mrs. Chas. Madden was very

similar in style; but slightly different in the shade of white; Laura Howard had broad petals, deep flower with good centre. This variety is also white. A new incurved variety named Lord Coleridge was a grand rich yellow, with good shaped blooms.

A group of one variety is very attractive. Such was that composed of Mrs. Wingfield, a beautiful rosy pink reflexed variety. The plants were dwarf, not more than 2 feet high, in 6 and 7-inch pots. It may be of interest also to note that several very dwarf plants of Ryecroft Glory were to be seen. They were in 5-inch pots, and had been disbudded instead of allowing all buds to develop.

Bunches of free flowering early varieties, produced on outdoor plants, were most interesting as serving to show what useful material may be grown in this manner. Some of the best were Bronze Bride, light red fluted petals, yellow tipped; Jules Mary, dark rich crimson, good; Mr. Silby, small but good Pompon, violet rose; Madame Zephir Lionnett, bronze and yellow; Bouquet Fait, pretty crimson bronze; Jeanne Vuilleminet, dark crimson; Madame Carreaux, rose and white; Madame Liger Ligneau, primrose, good-sized flowers; M. Max Dufosse, fine, large, narrow petalled, dark crimson; Golden Fleece, rich yellow; Strathmeath, pink; Madame E. Lefort, Pompon, yellow and bronze; Château St. Victor, rich purple; De La Guille, yellow and bronze; and Nellie Brown, red and orange, a sport from Ryecroft Glory.—E. D. S.

SUMMER AND WINTER RAIN.

AUTUMN FLOWERS.

YOUR reference to the deficiency of rainfall, on page 266, during September, furnishes food for contemplation, and reminds of the difficulties a gardener has to contend with during a long rainless period. Last month, according to that renowned scientist and observer, Mr. G. J. Symons, was the "driest September in forty years." This, doubtless, will strike many persons with astonishment, but our deficiency of moisture, by which vegetation in all its various forms obtains sustenance, is even more significant when viewed over a longer period.

I am speaking from memory, but have always understood that 25 inches may be considered a fair yearly average rainfall round about London, the eastern, and midland counties, while in many other parts of England, especially in the west and north, the downfall is considerably greater, in fact in the Lake district it more than doubles the amount quoted for London.

The following is the return registered here for the past twelve months commencing with October, 1897, and concluding with September, 1898, and it will be seen at a glance that the drought, by which vegetation is now suffering so badly, is caused by a deficiency of rain spreading over the whole period of the twelve months, rather than from the shortness of the past few months; for in my opinion it is as necessary for moisture to be carried into the soil either in the form of rain or snow during the winter months, when there is less evaporation, as it is during the hot summer months, and its beneficial influence is then more lastingly felt.

A YEAR'S RAINFALL IN VICTORIA PARK, LONDON.

1897									
October contributed on 6 days ...	...	...	...	...	...	...	...	...	0.43
November " 10 " ...	...	...	...	...	...	...	...	...	1.01
December " 14 " ...	...	...	...	...	...	...	...	...	1.99
1898									
January " 6 " ...	...	...	...	...	...	...	...	...	0.56
February " 11 " ...	...	...	...	...	...	...	...	...	0.85
March " 9 " ...	...	...	...	...	...	...	...	...	0.73
April " 10 " ...	...	...	...	...	...	...	...	...	1.10
May " 18 " ...	...	...	...	...	...	...	...	...	1.89
June " 11 " ...	...	...	...	...	...	...	...	...	1.20
July " 6 " ...	...	...	...	...	...	...	...	...	0.78
August " 8 " ...	...	...	...	...	...	...	...	...	0.90
September " 4 " ...	...	...	...	...	...	...	...	...	0.38
									11.82

Thus with me the total amount is a trifle under 12 inches, or not half the amount that it is usually our lot to receive. During seven of the twelve months the downfall did not reach 1 inch. January, February, July, August, and September were the driest months of the present year, while April, May, and June were our wettest—and good for us it was so, otherwise I fear our markets would have run very short in the supply of green vegetables, while Mangolds and Swedes must have of necessity been scarce also for winter food on farms. The first six months—October, 1897, to March, 1898, inclusive—furnished 5.57 inches; the second six months, April to September, 6.25; thus in each half-year the amounts recorded were nearly equal in proportions.

Large Hollies and other shrubs have on our light sandy soil suffered considerably. Where we have been able to convey water to the flower beds we are now rewarded with such a blaze of bloom that I should think was never before witnessed so late in the season in our smoky atmosphere. Usually the summer bedding plants are over early in September, but while I write, 12th October, we are as gay as it is possible to imagine. Begonias in variety, Heliotropes, Fuchsias, Lantanas, Phlox Drummond, Marguerites, and even "Geraniums," with a multitude of allied plants, are in full beauty, thus clearly to my mind showing that in a smoky atmosphere, when the weather is heavy, the soot and gases fall to the

earth, but with warmth and light they are carried upwards and dissipated, to the advantage of town vegetation. Hence atmospheric purity is the reason of the brilliancy and clearness of the colours of flowers grown in the country as contrasted with those grown in less favourable surroundings.

But water—Nature's gift to all mankind—has indeed at times been very short in its supply to us, some days during the excessive heat we were almost without any; but our troubles in this respect have been small when compared with persons living in crowded streets and alleys. I do not for one moment wish to imply that the East End of London is worse off for water than numerous country places. But there is a vast contrast between the working classes occupying a house in the country and persons in the same social station living in London. The metropolitan inhabitant is accustomed to have water brought to his door; yea! into his living rooms, while persons residing in remote country places have to rely on a well or running stream, often at a great distance. Necessity in this latter case compels the country resident to be always provided with sufficient pails or other storage vessels for their wants; but, on the contrary, the indigent Londoner, by the "constant supply" custom, has no such receptacles to meet a time of scarcity, and hence the trouble and misery when a limited supply is given for a few hours only.

It has indeed been piteous to see the poorer classes struggling and crushing behind water vans, with vessels as varied in their character as the pebbles on the sea beach, and many of them looking scarcely fit to contain water for consumption. London is London in its entirety, so far as its habitations are concerned, but unfortunately the water supply is divided, the inhabitants of one district having suffering enforced upon them by want of water while other localities can boast of plenty, but cannot give because the various services are separate and unconnected. London in this respect has much to learn.—J. W. MOORMAN, *Superintendent, Victoria Park, E.*

[While the scarcity of water in the Victoria Park district of London has been lamentable, we are credibly informed that it could only be had recently at a cost of 4d. a pail in a district in Sussex. Victoria Park was indeed gay a week ago with the flowers above named, but now in process of removal; but Mr. Moorman, however, omits to mention how much of the display was due to early-flowering Chrysanthemums, transferred when in flower from nursery quarters to beds and borders. Gentle showers have also brought a tinge of green to the grass that was previously brown and sere. The three thousand Chrysanthemums in pots are fortunately late, and will succeed under glass the present show outside, the lateness being due to the collapse of many crown buds under the intense heat and the consequent retention of terminals. Though "big" blooms will not be absent, the general display will be characterised by brightness and refinement—a not unwelcome change from the massive sameness usually presented by all the shows in the London parks.]

PLUM RIVERS' PRIMATE.

WE give an illustration (fig. 54) of this handsome Plum, which received an award of merit from the Fruit Committee of the Royal Horticultural Society on Tuesday, 11th inst. Relative to this and other late varieties, Mr. T. Francis Rivers writes:—"This is a large bright red fruit, spotted with light specks, the flesh is firm and pleasant, freestone, not quite a first-class dessert fruit, but very good for the kitchen; like the Monarch, well adapted for drying, and, owing to its late season, valuable for market. It usually ripens about the second week in October, according to the season. October is being gradually furnished with good Plums. For dessert fruit we have Reine Claude de Bavay, Late Transparent, Grand Duke, Late Orange, and Coe's Golden Drop; and for the kitchen Monarch, Primate, Wyedale, Late Orleans, and September Beauty."

LOUGHBOROUGH GARDENERS' SOCIETY.

THE Loughborough and District Gardeners' Mutual Improvement Association's second annual exhibition of hardy fruits was, by permission of the Mayor, held in the Corn Exchange on Friday, October 7th. The Association is to be congratulated upon the magnificent display of fruits brought together, upwards of 400 dishes being staged. Considering there are no prizes or certificates given, this must be considered an excellent display, and encouraging to the Committee, the object of these exhibitions being to compare notes of merit, rectify any errors in the nomenclature of the little or unknown fruits, and to bring prominently before the public the most useful varieties to grow.

A 7 P.M. Mr. C. C. Hurst, F.L.S., gave a lecture upon the "Origin and Improvement of our Hardy Garden Fruits." The chair was taken by the Mayor, in the absence of the President of the Association. There was a large and appreciative audience to listen to the lecturer's remarks. He referred to the early cultivation of fruits in prehistoric times, and by the Greeks and Romans, and how the varieties of Apricots, Peaches, Nectarines, had followed the paths of conquerors of this country, and detailing the improvements of latter years particularly; so was this apparent of Apples and Pears. A hearty vote of thanks was accorded the lecturer, and the Mayor for presiding. This was the opening night of the Association's winter session, and a most profitable and instructive evening was spent and enjoyed by all.—D. R.

THE YOUNG GARDENERS' DOMAIN.

CROTONS IN FRAMES.

AMONGST the many stove plants now in cultivation for table decoration and other purposes, these old favourites still hold their own, more especially when they retain their foliage down to the pots, and are of a high colour, which is most desired in all foliage plants. A high temperature is essential for their culture. Those with a limited space are at a disadvantage, having to devote their stove, or warm house, to a host of other plants during the summer; a hotbed made of stable litter and leaves well mixed, using an ordinary frame of one or two lights, is a capital substitute for either the stove or propagating house. In this way we have this season grown two dozen plants from cuttings rooted last autumn, wintered in small pots, and cuttings rooted early this spring which were potted the end of March, and placed in hotbeds. Coal ashes were used to prevent worms working in the pots.

The bed being naturally moist, they do not dry so fast, while, added to this, they require less syringing, and are free from the attacks of spider or thrips, which are their worst enemies. Maintain a night temperature of 65° if possible. Owing to this somewhat tropical season, we have kept up the temperature by lining the frame with refuse from the garden and pleasure grounds; but had the season been otherwise, we should have had to resort to stable litter. I ought to mention that

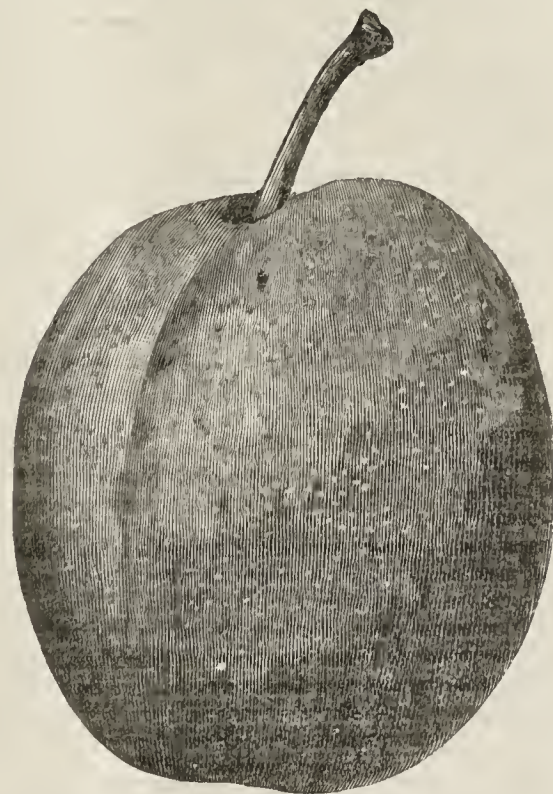


FIG. 54.—PLUM, RIVERS' PRIMATE.

a little air must be admitted during the hottest hours of the day. When the plants are a suitable size, and before moving them to a stove, admit more air, so as to harden a little, place close to the glass, and in lightest possible place, so as to give colour. Some of our varieties treated thus are Reidi, Disraeli, Warreni, and Weismani, most of them being in large 60-pots, in bush form, and very suitable for the table. In addition, other plants have done equally well, such as Dracænas, Pandanus, and Euphorbias.—PARVO.

BOUVARDIAS.

THESE beautiful plants ought to be more largely grown than is the case at the present time. The genus comprises some of our best autumn and winter-flowering plants, and at that time are almost indispensable for cut flowers and decoration. I hope the following notes will be of some use to other young gardeners. Propagation is easily done by taking young growths or root cuttings. When the plants have finished flowering in the spring gradually reduce the supply of water till the leaves are dead, then cut the growths back and place them in a warm pit with a gentle bottom heat, supplying the plants with water when required, and syringe twice a day to encourage them to break.

When the young growths are about 1½ inch in length cuttings should be chosen. They must be taken off with a heel and placed round the sides of 3-inch pots, which have previously been filled with a compost consisting of fibrous loam, peat, and leaf soil in equal proportions, with a good sprinkling of silver sand. Afterwards place the pots containing the cuttings in a close frame or propagating pit, keeping close till roots are emitted, then give a little air, which can be increased every day, until the plants are ready to go on a shelf near the glass.

Some growers prefer root cuttings. These are obtained by shaking the old plants out of the pots after they have been gradually dried, and, selecting the thickest roots, cut them into pieces about 2 inches in length. Lay these in pans, using a similar compost to that above advocated, cover the cuttings with about half an inch of soil, and place them in a propagating pit, affording the same attention as the stem cuttings.

When rooting has taken place pot singly in small 60-size pots, using the same compost as before, standing the pots on a shelf near the glass in a house with a temperature ranging from 55° to 60°. As soon as the young

plants are established in the new soil pinch them back to two leaves to form bushy plants, and as the roots commence to coil round the bottom of the pots transfer to a larger size, using a mixture of good fibrous loam two parts, leaf soil one part, and abundance of silver sand. Place the plants back in the same position as before, and attend to the stopping of the young growths, as every bit of well-ripened wood will flower. Great care must be exercised in watering, never letting the plants during the growing period want for water. To overdo it, however, is just as injurious, causing them to make weak, sickly growths.—A JOURNEYMAN.

(To be continued.)



FRUIT FORCING.

Cucumbers.—Autumn fruiters are now in full bearing. The plants must not be overcropped, therefore cut the fruit when it attains a useable size, also remove any ill-shapen and surplus fruit. Go over the plants at least once a week for the removal of bad leaves, stopping and tying the growths, laying in no more wood than can have light, cutting away the superfluous shoots. Winter fruiters do best if allowed to advance well up the trellis before stopping them, removing all side growths on the stem up the trellis, then train the shoots right and left of the stem, not too closely, as well developed foliage is very important, particularly in winter fruiting plants. Remove all male flowers, and cut off tendrils as they appear. Add fresh warmed soil as often as the roots have fairly covered the sides of the ridges or hillocks, and if they need vigour use a little soot, and an occasional dusting on the bed of superphosphate will tend to improve the substance of the whole plant.

Maintain a temperature of 70° on mild, 65° cold nights, 70° to 75° by day artificially, advancing to 80° or 90° with sun heat. Admit a little air at the top of the house on all favourable occasions, but avoid admitting cold air, and never lower the temperature. It is better to shut off the top heat for a few hours when the sun is powerful, than ventilate the house when the wind is strong or very cold, for it dries the air and causes a chill. The plants will not need syringing except on very fine days, when a light damping is beneficial, but the paths and walls should be damped in the morning and afternoon on bright warm days shortly before midday, keeping the evaporation troughs charged with liquid manure. Water the beds whenever they become rather dry, not allowing the plants to get distressed or flag, but before the foliage is limp afford a thorough supply of that element or warm liquid manure. The water given to the roots must be of the same temperature as the mean of the house, and the soil used for covering the roots should be inside some time to be warmed before placing it over the roots.

Figs.—*Early Forced Trees in Pots.*—Trees that are to be forced to afford a supply of ripe fruit at the close of April or early in May must be started by the middle of November, and will now need to have the wood brushed over, using an approved insecticide at a temperature of 130°. A mild bottom heat is almost a necessity to a successful swelling and ripening of the early crop, but the pots, unless small, must not be plunged in the fermenting beds. Provide, therefore, pedestals of loose bricks on which to stand the pots, so that their rims will be a little higher than the pit edge, and the pit can then be filled with Oak or Beech leaves pressed down firmly. If the pit is not more than 3 feet deep a third of stable litter may be added, and the leaves and litter should be thrown into a heap, moistened if necessary, and turned once or twice so as to thoroughly mix them and induce gentle fermentation. Overheating must be avoided, the heat in the early stages never exceeding 70° to 75° at the base of the pots, nor more than 60° to 65° about them until growth takes place. Suitable varieties for forcing very early are St. John's (Tresfer), Early Violet, and Angélique (Madeleine). Black Provence and White Ischia are also useful. Pingo de Mel, Brown Turkey, and White Marseilles are unequalled for forcing so as to produce fruit from trees in pots in late April or early in May, and they are large and good in flavour.

Early Forced Planted-out Trees.—When in borders and intended for affording ripe fruit at the end of May or early in June, and being started at the new year, they must now be untied from the trellis and pruned. Trees restricted to small borders in a firm condition will, from their short-jointed and sturdy growth, require little more than thinning out the shoots where too crowded, and cutting away the growths that have reached the extremity of the trellis and become bare of fruitful wood. Those not having the roots restricted will require hard pruning at the upper part of the trellis, allowing room for the growth of the successional branches; but severe pruning only induces stronger and less fruitful growths. Such trees should be lifted, and have the roots confined to narrower well-drained borders of firm soil. Remove the surface soil down to the roots, pick out all the old soil from amongst them carefully, and supply a top-dressing of fresh loam with some old mortar rubbish intermixed. Ventilate freely at all times, except when frost prevails, and at such times heat should only be used to exclude it, though the trees will not take any harm unless the weather is very severe.

Succession Houses.—When the leaves have fallen prune the trees and well wash them with a soapy solution, which will do much to dislodge the

insects, and after the woodwork and walls have been scalded with hot water, keeping it off the trees, the latter may be dressed with an insecticide and the walls limewashed. Complete any root-pruning, lifting and laying the roots in fresh compost. Fig trees with the roots restricted are more manageable and fruitful than those with an unlimited rooting area; therefore lift and severely root-prune any unfruitful trees, and restrict the roots to moderately sized borders, making the soil firm, and employ good loam with a sixth of old mortar rubbish and a similar proportion of road scrapings, good drainage being paramount.

Late Houses.—The trees should have wood cut out that has borne fruit and is no longer required, and any trees having a tendency to over-luxuriance, or that cast their fruit instead of swelling, should be lifted, and have the roots confined to borders of limited extent. When the leaves fall the trees should be loosened from the trellis, and being tied together, they must be made safe against frost by placing a little straw amongst them, and covering the bundles with the latter or mats, for trees in cool houses suffer nearly as much from frost as those against walls outdoors. The roots near the collar are better with a slight protection of dry material.

THE KITCHEN GARDEN.

Asparagus.—A few frosty nights have hastened the maturation of the top growth, and when these are yellow they should be cut down to within 4 inches of the soil and burnt. The ground ought to be cleared of weeds, and the surface lightly stirred. In the case of light and moderately retentive soils the beds may be covered with 3 inches of half-decayed manure and a little soil spread over, but this treatment would be wrong in the case of the heavier, clayey soils. If the plants are 3 inches or so below the surface, frosts will not hurt them, but they are liable to injury from excessive cold and moisture combined—the result of covering heavily with manure in the autumn.

Forming Asparagus Beds.—Naturally well drained, free working soils will produce good Asparagus without any special preparation for the crop, but cold clayey soils are not suited to Asparagus culture, and care must be taken in preparing the sites accordingly. The work of preparation may be commenced during a dry time in the autumn. Beds of 4 feet wide and raised well above the surrounding level answer well in the case of cold positions and heavy soils. Only the best of the surface soil should be thrown out on each side and saved, the bared subsoil being dug and wheeled away in frosty weather. A single pipe drain may be run down the centre of each bed, sinking this below the subsoil. Cover with brick ends, coarse mortar rubbish, clinkers or coarse ballast, and on this drainage wheel various accumulations of a nature to steadily decay and yet retain its porosity. This collecting may go on through the winter and early spring months, when the various materials should be forked over, mixed, levelled, and made comparatively firm. The upper layer to be formed by adding to the reserved soil leaf soil, fine mortar rubbish, sand, ashes from a garden "smother" or slow fire, decaying stable manure, or any other material that will lighten and otherwise fit it for the production of superior Asparagus in large quantities and for many years in succession.

Broccoli and Cauliflowers.—The earliest Broccoli and late Cauliflowers are now hearting in in a satisfactory manner, and their value was never more fully appreciated. It is somewhat early to lift and store fully grown plants in cold pits and frames with a view to having a good supply after those left in the open have succumbed to frost, but we sometimes experience wintry weather in October and the early part of November, and this ought to be prepared for. To save the hearts from frost, cover those developing, whether large or small, with leaves snapped off old stumps already cut over, and, in addition, tie the outer leaves into a cone, this affording additional protection.

Brussels Sprouts.—Only where the rainfall during the summer was above the average through the country generally, or where moisture could be supplied to the plants occasionally, are good breadths of Brussels Sprouts, caterpillars notwithstanding, to be seen. The by no means uncommon practice of removing all the lower leaves prematurely ought to be discontinued, as it has a paralysing effect upon the production of a heavy crop of close sprouts. When the lower leaves turn yellow remove them to the rubbish heap. Nor ought the tops to be cut for early use, as these act as a protection and nurse for the later formed sprouts. Instead of snapping the earlier sprouts off close to the stems, and in many cases removing some bark with them, cut them, and leave a stump standing out clear. About these stumps will form a profusion of small, late, and most probably valuable sprouts.

Forcing Rhubarb.—Thanks to the dry weather Rhubarb matured early, and should therefore be ready for forcing, if desired, earlier than usual. Any variety may be forced, but the early red-stalked forms are the quickest to give young stalks, and are to be preferred this side of midwinter. If the clumps are lifted and placed direct in a rather strong heat they may yet fail to start satisfactorily. They would do better if first subjected to a frost or frosts. The requisite number of clumps should be partially cleared of soil and introduced into heat after exposure to frost.

Garden Refuse.—Rubbish of all kinds accumulates very fast, and in straggling heaps is apt to become a nuisance. Properly treated it may be converted either into a good manure or reduced to ashes, in which condition it is a great improver of soils. If it is to be rotted down with or without the aid of quicklime commence at one end of the heap, fork it over, throw out stones and the like, also everything of a woody nature, and place that retained, which will be the greater proportion, into a large square heap. Here it may remain till early in next year, when it should be re-turned, mixed, and if one cartload of fresh lime is well incorporated

with every five loads of the decaying refuse its value as a manure will be considerably enhanced. All the woody refuse should be burnt, forming part of a heap of wood and rubbish that is to be converted into ash by means of a slow fire. Heavy land freely dressed with this residue from a slow fire is permanently improved by it, never again running together so closely as before, and both fruit trees and vegetable roots revel in land to which the material has been added freely.

THE BEE-KEEPER.

WORK IN THE APIARY.

THE fine bright weather which has continued throughout the late summer and early autumn will be appreciated by bee-keepers, as it will enable them to carry out any repairs or alterations that may be necessary for the well-being of the bees. This is more important after a long spell of bright weather than would be the case in an ordinary season. Although hives may be well made of the best materials, they will eventually warp, and cracks appear where least expected in the roof from long exposure. When this happens, what is the result? The first heavy shower of rain that comes will saturate the bees, and it allowed to remain in this condition for any length of time they will gradually dwindle away, and instead of coming out strong and healthy the following spring, they will be weak. Dampness in the hive, too, will cause dysentery in its most acute form, and long before it is possible to transfer the bees to another hive they will probably have succumbed.

It is therefore advisable during the present spell of fine weather to thoroughly overhaul the hives. It will not be necessary to disturb the bees if only the roof is affected, and in nine cases out of ten the body of the hive will be found in good condition, although the roof may be quite the reverse. Our usual practice is to paint the hives once a year, and autumn is the best time for the operation, as they are then made waterproof for the winter. Genuine whitelead is the best, as it will stand the many changes in the weather better than anything else we have yet tried. The hive and roof should receive two coats of paint. After it has been painted once and has dried, stop up all crevices with putty; this should be well pressed in with a knife. If large cracks are found it will be better to strain a piece of thin calico over them; this should be well saturated with paint before being placed in position, paint it over again on the outside, and it will be found that no moisture will penetrate into the interior of the hive.

We have some roofs which were treated in this manner ten years ago, and they are now, for all practical purposes, as good as when they were first operated on, and it would require a close examination to show where the patches were first applied.

AUTUMN FLOWERS.

What a wealth of autumn flowers there are in the north; never before have we seen so many so late in the autumn. Several of the gardens are brighter now than they often are at midsummer. This may seem almost incredible to those residing in the south, where all vegetation has been dried up for months past, and flowers in the gardens are almost nil. The bees are having a delightful time gathering honey and pollen, thus adding to the large surplus already stored in their hives. It is only in an exceptional season like the present that this takes place, and during the middle of the day the bees may be seen returning to their hive heavily laden with pollen, thus showing that breeding is still going on in the majority of the stocks.

What will be the result of this late breeding remains to be seen. We have no fear of the bees being in good condition next spring, as they will go into winter quarters well provided with natural stores, as owing to the prevalence of honeydew the honey was not extracted from the combs. We are now, in addition to the above, receiving great benefit from late-sown Mignonette. Many of the hardy herbaceous plants which bloom profusely in the autumn yield pollen in abundance, and doubtless a little honey during the prevalence of high temperatures such as have prevailed during the present season. The common Ivy may be found in many country districts covering old walls and trees. This at the present time is a mass of bloom from which the bees derive great benefit.—AN ENGLISH BEE-KEEPER.

BEEES IN THE LECTURE ROOM.

AT the last bi-monthly meeting of the Walkley Floral Society, Mr. John Haigh (Vice-President) presided, and a good number of members were present to hear an address by Mr. John Hewitt, Sheffield, the subject being "The Wonders of Bee Life," and in dealing with it he principally referred to the remarkable control that can be obtained over bees by those who take the pains to study them carefully.

He informed his hearers that if you could only frighten them that you might manipulate them at pleasure without any fear or danger. Two hives of very lively bees were brought from his apiary with which to

demonstrate his statements. The first to be opened was full of combs, but before the frames were taken out Mr. Hewitt very violently thumped the sides and ends of the hive, after the style of a Cingalese beating the tom-tom. This had the effect of arousing the inmates, which buzzed in a most alarming manner, and caused a number of the audience to have a sensation that is known as "creepy." Then he proceeded to take out and exhibit each frame, on which masses of bees were clustered together; scarcely a bee attempted to escape.

The second exhibition was of a much more alarming and sensational character, and consisted in liberating a whole hive at once. Mr. Hewitt dumped 20,000 bees on to the middle of the floor, as quickly as he might have emptied a box of currants or any other commodity, and then proceeded to make them march into the box placed 2 or 3 feet distant. Immediately the whole colony was in a state of active excitement, and in a broad band started for the shelter of the upturned box. The earliest arrivals soon entered the sanctuary, but some time necessarily elapsed before the whole army got back to their quarters; a few bees took wing and made an examination of the audience, whose frequent dodging proved that they could not quite forget that they could sting. A few more started to explore the floor of the room, and in bringing these wanderers back to the line of march there was considerable amusement (and a little courage on the part of the audience).

Mr. Hewitt assured his hearers that the bees were quite harmless, and might be handled with impunity by anyone provided they did not crush them. To prove his statement further than he had done (by picking up single bees during his address) he plunged his bare hand into the mass on the floor, an example that was immediately followed by two of the audience, who lifted from the ground as many bees as could be beld in one hand. The spectators, amongst whom were three ladies, had by this time gained a little courage, when a number of them picked up single bees with as much ease as they might a stray collar stud.

Before taking out the frames Mr. Hewitt, with a camel's-hair pencil, smeared the edges of the hive with carbolic acid, and previous to pitching the bees on the floor, he roughly made a narrow circle on the floor about 7 feet in diameter, with the same liquid, explaining that they did not like to cross anything smeared with carbolic acid.

The meeting was a most interesting and instructive one, and all present were greatly pleased with the experiment, and passed a very hearty vote of thanks to Mr. Hewitt for his instructive and interesting entertainment.—J. S. H.

TO CORRESPONDENTS

All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

White Dahlia (D. D.).—The variety appears to be a good one, but we should advise you to forward several flowers to some Dahlia specialist, who will tell you if it is of any value, and whether it is quite distinct from all others.

Caterpillars and Dahlias (W. S. S., Cardiff).—We received your letter notwithstanding the fact that it was incorrectly addressed, but no caterpillars have yet come to hand. Send fresh specimens directed to the address at the head of this column.

Exhibiting Chrysanthemums (J. D.).—The point you raise can only be determined by the judges, and therefore safety rests in your exhibiting within the rules of the N.C.S. Perhaps you had better write to Mr. Dean, the secretary, on the subject. We think affiliated societies should adhere to the N.C.S. rules on points of nomenclature.

Injured Chrysanthemum Leaves (G. R. A.).—Most of the injury has been done by the larvæ of a minute beetle eating the leaves when in the early stage of formation, the evil showing itself as the foliage becomes developed. Dusting the tips of the shoots with tobacco powder occasionally in July, August, and September is a good method of prevention. There is little rust on the leaves. The best known preventives are those mentioned in our last issue.

Forcing Lilac (Novice).—White Lilac is obtained early in the year by placing well-budded shrubs or bushes dug from the ground in a warm dark place, such as a well-heated shed or Mushroom house. Shrubs of the common pink Lilac are usually the most plentiful, and the flowers come white when they expand in darkness. A temperature between 60° and 80° is suitable; the higher it is the sooner the flowers appear, and we have known them quickly obtained in a temperature of 90°. The shrubs must be syringed occasionally till the growth starts, and the roots be kept very moist. In addition to the heat from hot-water pipes, some persons have heaps of sweet fermenting materials, consisting of leaves mainly in the Lilac shed, turning them occasionally, for the diffusion of heat and moisture, but an excess of moisture must be averted or the flowers will suffer. If you have no shrubs that you can dig up you must apply to nurseries for them. White Lilac can be forced in glass structures, when small shrubs of the white variety are obtained and potted. The best of these are grown in France, and imported and sold by English nurserymen.

Bulbs and Seeds (Amateur).—We are unable to say whence and from whom the bulbs were obtained, the flowers of which you admired in Kew Gardens. You could no doubt obtain authentic information by writing a letter of inquiry to the Director, enclosing a stamped directed envelope for reply. Either the corms of Gladioli you describe were inferior, or planted at the wrong time. It is a mistake to search for the cheapest possible vendors of bulbs and seeds at home and abroad, for below certain figures cheapness means inferiority. No comment of ours is needed on the bulbs and seeds that failed so utterly, because whatever we might say, we should think you would let the vendors severely alone in the future. As good Gladioli are grown in England as anywhere in the world, as are most kinds of hardy bulbs. It is impossible for us to recommend any particular dealer, and thus unjustly imply that all others are relatively inferior. Vendors of the highest repute advertise in the *Journal of Horticulture*, and than the bulbs and seeds they sell no better are obtainable, and if planted and sown at the proper time, in suitable soil, and the plants given reasonably good attention, not grievously disappointing, but satisfactory results follow. This is our experience, and the experience of thousands of amateurs in various parts of the kingdom. It may be added that some varieties of Gladioli are prone to be affected by disease, and you should ask for those which are constitutionally strong. Spring is the time for planting them, but the sooner spring flowering bulbs of different kinds are planted or potted after the present time the better.

Belladonna Lilies in Pots (Belladonna).—The proper time to pot this species (*Amaryllis Belladonna*) is in June or July, when the bulbs commence root action before the flower stems are sent up. You appear to have given them the treatment usually accorded to *Hippeastrums*, which have a growing season from February to September, while Belladonna Lilies commence growing in the early autumn after flowering is over and continue in growth until the spring, when the foliage dies down. As we have grown this splendid species to the admiration of others, the following outlines of procedure may not be unacceptable. The bulbs usually come to hand when at rest, generally early in September, then having flower buds. This is too late by a month or six weeks to do the plants justice, for they commence root action, as before stated, before the flower stems are sent up. The bulbs are placed singly in pots twice that of their diameter or a trifle more, in a compost of good fibrous, rather heavy or yellow loam, with one-fourth of leaf mould or well decayed manure, a sixth of sand, and a sprinkling of crushed bones and charcoal. Good drainage is very important. The soil is made firm under and around the bulbs, and this left at least half above the level of the soil. This being moderately moist no water is given, but the pots are stood on shelves in a greenhouse—one from which frost only is excluded—for the plants cannot have too much light. The plants may flower, but most of ours do not develop the scapes present when the bulbs are potted, either becoming blind or rotting. Growths will soon appear, then supply water—moderately at first, yet keeping the soil moist for the development of the flower scape and flowers, if any, and to sustain the growth. Water as required during the winter months, and when the foliage gives indications of dying down gradually withhold or lessen the supplies, and keep quite dry after the leaves lie down. About August the plants will begin growing again, or give indications of so doing, when remove a little of the surface soil and supply fresh. As growth pushes, for very few bulbs flower in the season after first potting, gradually supply water, and when in free growth afford it liberally, with occasional applications of liquid manure, but taking care not to make the soil sodden, proceeding exactly as in the previous season. The chief points are to afford plenty of light and air on all favourable occasions, so as to secure a sturdy growth and its thorough maturation. In the late summer, or early in autumn, flowers may be expected on the well-developed bulbs. The bulbs are not potted oftener than once in three years, and then in June or July, always before either flower-buds or leaves appear. Offsets should be removed, potted singly—but well-grown bulbs do not produce many offsets. Six-inch pots suffice for the largest bulbs, 5-inch pots answering for ordinary sized samples. However, pots twice the diameter or rather more of the bulbs is a safe rule to follow.

Grapes Diseased (Surrey).—The Lady Downe's Grapes are affected by a mould, or rather several species of saphrophytic fungi, which can hardly be regarded as the cause of the disease. This appears to be damp, and the mouldiness a consequence of it. Both Alicante and Gros Maroc are tougher skinned than Lady Downe's, and this may account for their not being affected by the damp, which has certainly injured the skin of the berries of the latter variety, and the moulds have taken up their abode in the decayed matter. We can only suggest more liberal ventilation in all stages of growth, but especially during the swelling and ripening periods with a little air constantly, particularly at night when the pipes are "warmed." The moisture of the house condensed on the berries has, we suspect, been the cause of the mischief. Their skins are thus injured, and the fungus germs able to germinate and take possession of the tissues of the Grapes, like spawn running through a Mushroom bed.

Boards for Exhibiting Chrysanthemums (R. M.).—One of the regulations of the National Chrysanthemum Society says, "Exhibitors are required to have their stands made in accordance with the Metropolitan plan—viz., stands for twelve incurved blooms to be 24 inches long and 18 inches wide, with holes 6 inches apart from centre to centre, to stand 6 inches high at back, and 3 inches in front. Two 'twelve-boards' may be used for twenty-four blooms, three for thirty-six blooms, and so on. The six stands to be 18 inches long by 12. Stands for twelve Japanese blooms to be 28 inches long and 21 inches wide, the holes 7 inches apart from centre to centre. Stands for six blooms, 14 inches long and 21 inches wide. The height at the back to be 7 inches and 4 inches in front. All stands to be painted green, and to have the supports secure." This will apply of course to all provincial societies that are affiliated with, and accept the rules of the "National." An illustration of a box with directions for making appeared in "*Molyneux's Chrysanthemums*," price 1s. 2d. post free from the publisher, 12, Mitre Court Chambers, Fleet Street, London.

Bauera rubioides (M. G. R.).—This plant ought to be more extensively grown, for though it has now been in cultivation in a few gardens for nearly 100 years it is very rarely seen, especially in nurserymen's collections. Yet the plant is of easy culture, floriferous in the extreme, the flowers being of a distinct form and pleasing deep rosy colour, the latter characteristic alone being sufficient to recommend it strongly. The foliage too is effective, the narrow dark green leaves being arranged in whorls round the slender branches. There is some difference between authorities respecting the introduction of the plant. Andrews states that it was "first raised at the seat of the Marchioness of Rockingham, Hillingdon, Middlesex, in the year 1793." Dr. Sims, however, states that it was first raised by Messrs. Grimwood and Wyke of Kensington. It was in the Kew collection early in this century, and is mentioned in Aiton's "*Hortus Kewensis*" as being originally from New Holland, introduced to this country by the Marchioness of Rockingham, thus corroborating or accepting Andrews' account. The cultural requirements of this plant are few. A cool house such as a conservatory or greenhouse, or indeed a sheltered position out of doors in the southern counties, suit it well. Peat, a little turfy loam, and a small quantity of leaf soil form a good compost for it, draining the pots carefully and supplying water judiciously, as extremes are very injurious to it. It can be readily increased by cuttings.

Names of Fruits. — Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state.* (W. H. B.).—The box was misdirected, and on arrival two fruits were quite rotten. In consequence of the moisture the distinguishing letters on the other were obliterated; but if visible, some of the fruits were so inferior that it is doubtful if anyone could name them. (Cedo Nulli).—1, Belmont; 2, a deformed and fungus-infested fruit, possibly *Maréchal de Cour*; 3, *Mère de Ménage*; 5, *Grange's Pearmain*; 4 and 6, we suspect these be local varieties, and they are worthless. (M. B.).—1, *Aromatic Russet*; 2, *Winter Greening*; 3, *Lord Derby*; 4, *Beanty of Kent*; 5, *Hambleton Deux Ans*; *Pear Catillac*. (A. F. D.).—1, *Cellini*; 2, *Lord Suffield*; 3, *Baldwin*; 4, *Scotch Virgin*; 5, deformed, unknown; 6, *Winter Greening*. (C. N.).—1, *Court Pendu Plat*; 2, *Borsdorffer*; 3, *Royal Somerset*; 4, *Dumelow's Seedling*, pale; 5, *Striped Beefing*, fine; 6, *Dumelow's Seedling*, coloured. (T. R. B.).—1, *Pitmaston Pineapple*; 2, *Court of Wick*; 3, *Royal Russet*; 4, *Galloway Pippin*. (W. J.).—The Red Apples arrived quite rotten, in which condition they resemble *Sops-in-Wine*. (J. H. N.).—Very fine specimens of *Catshead*, one of best culinary Apples. (H. T.).—1, *Beurré Hardy*; 2, *Beurré Superfin*; 3, eye abnormal and stalk broken, otherwise resembles *Marie Louise*; 4, not in condition to be named, one side rotten; 5, *Beurré Diel*; 6, *Beurré d'Arenberg*. (Constant Subscriber).—*Pear Beurré Diel*; Apples—1, *Herefordshire Pearmain*; 2, *Evargil*; 3, imperfect, possibly

Cellini; 4, Dumelow's Seedling; 5, Herefordshire Beefing. (*R. M. D.*).—1, Very handsome Louise Bonne de Jersey; 2, probably Marie Louise from a late flower; 3, Doyenné Boussoch; 4, Souvenir du Congrès. (*E. L.*).—Pears—1, Marie Louise; 2, too hard for naming, perhaps Beurré Langelier; 3, Glou Morceau; Apples—1, Round Winter Nonesuch; 2, doubtful, perhaps Alfriston. (*G. C.*).—1, Beurré Superfin; 2, Cox's Pomona; 3, American Mother; 4, Hollandbury; 5, Lady Henniker, green; 6, unrecognised, perhaps local. (*C. C.*).—1, Hambledon Deux Ans; 2, Nonesuch; 3, Kerry Pippin; 4, Winter Codlin; 5, Pearson's Plate; 6, Norfolk Beefing. (*Cymru*).—Brown Beurré. Some other parcels arrived too late to be attended to this week.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*A. McQ.*).—2, *Adiantum pedatum*; 3, *Pteris serrulata cristata*; 4, *Adiantum gracillimum*; 1, 5, and 6 were not in condition for naming. Complete and fertile fronds of Ferns should always be forwarded. (*F. J. M.*).—1, *Aspidium trifoliatum* var.; 2, *Pteris internata*; 3, *Blechnum occidentale*; 4, *Asplenium* species; 5, *Adiantum tenerum*; 6, *Asparagus tenuissimus*. Numbers should always be attached to the specimens. If you cannot follow the names write us again. The *Pyrethrum uliginosum* presents a case of fasciation that is not uncommon (*Doubtful*).—1, *Asparagus deflexus*; 2, a *Rhododendron*, probably *jasminiflorum*. Both specimens were too small for positive identification.

TRADE CATALOGUES RECEIVED.

H. Merryweather, Southwell.—*Fruit Trees and Roses.*

The Stancliffe Estate Co., Ltd., Darley Dale, Matlock.—*Trees and Shrubs.*

COVENT GARDEN MARKET.—OCT. 19.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve ...	1	3 to 3 6	Lemons, case ...	30	0 to 60 0
Cobs ...	45	0 50 0	St. Michael's Pines, each	2 6	5 0
Grapes, lb. ...	0	10 1 6			

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0	0 to 0 0	Mustard and Cress, punnet	0	2 to 0 4
Beans, $\frac{1}{2}$ sieve ...	0	0 0 0	Onions, bushel ...	3	6 4 0
Beet, Red, doz. ...	1	0 0 0	Parsley, doz. bnchs. ...	2	0 3 0
Carrots, bunch ...	0	3 0 4	Parsnips, doz. ...	1	0 0 0
Cauliflowers, doz. ...	2	0 3 0	Potatoes, cwt. ...	2	0 4 0
Celery, bundle ...	1	0 0 0	Salsafy, bundle ...	1	0 0 0
Coleworts, doz. bnchs. ...	2	0 4 0	Scorzonera, bundle ...	1	6 0 0
Cucumbers ...	0	4 0 8	Seakale, basket ...	1	6 1 0
Endive, doz. ...	1	3 1 6	Shallots, lb. ...	0	3 0 0
Herbs, bunch ...	0	3 0 0	Spinach, pad ...	0	0 0 0
Leeks, bunch ...	0	2 0 0	Sprouts, $\frac{1}{2}$ sieve ...	1	6 1 9
Lettuce, doz. ...	1	3 0 0	Tomatoes, lb. ...	0	4 0 9
Mushrooms, lb. ...	0	6 8	Turnips, bunch ...	0	3 0 4

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6	0 to 36 0	Foliage plants, var., each	1	0 to 5 0
Aspidistra, doz. ...	18	0 36 0	Lilium Harrisii, doz. ...	12	0 18 0
Aspidistra, specimen ...	5	0 10 6	Lycopodiums, doz. ...	3	0 4 0
Dracæna, var., doz. ...	12	0 30 0	Marguerite Daisy, doz. ...	6	0 9 0
Dracæna viridis, doz. ...	9	0 18 0	Mignonette, doz. ...	4	0 6 0
Erica various, doz. ...	9	0 24 0	Musk, doz. ...	2	0 6 0
Euonymus, var., doz. ...	6	0 18 0	Myrtles, doz. ...	6	0 9 0
Evergreens, var., doz. ...	4	0 18 0	Palms, in var., each ...	1	0 15 0
Ferns, var., doz. ...	4	0 18 0	„ specimens ...	21	0 63 0
„ small, 100 ...	4	0 8 0	Pelargoniums, scarlet, doz. ...	4	0 6 0
Ficus elastica, each ...	1	0 7 0	„ „ ...	8	0 10 0

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch ...	2	0 to 3 0	Marguerites, doz. bnchs. ...	1	6 to 2 6
Bouvardias, bunch ...	0	6 0 9	Maidenhair Fern, doz. ...		
Carnations, 12 blooms ...	1	0 2 0	bnchs. ...	4	0 8 0
Chrysanthemums, per beh. ...	0	6 1 0	Mignonette, doz. bnchs. ...	1	6 3 0
Eucharis, doz. ...	2	0 3 0	Orchids, var., doz. blooms ...	1	6 9 0
Gardenias, doz. ...	1	0 2 0	Pelargoniums, doz. bnchs. ...	3	0 6 0
Geranium, scarlet, doz. ...			Roses (indoor), doz. ...	0	6 1 6
bnchs. ...	4	0 6 0	„ Red, doz. ...	0	3 0 6
Gladioli, per bunch ...	1	0 1 6	„ Tea, white, doz. ...	1	0 2 0
Lapageria (white) ...	1	6 2 0	„ Yellow, doz. (Perles) ...	1	0 2 0
„ (red) ...	1	0 1 3	„ Safrano (English) doz. ...	1	0 2 0
Lilium lancifolium, white ...	1	6 2 0	„ Pink, doz. ...	2	0 4 0
„ „ pink ...	1	6 2 0	Smilax, bunch ...	1	6 2 0
„ longiflorum, 12 blooms ...	4	0 5 0	Violets ...	0	9 2 6
Lily of the Valley, 12 sprays ...	0	9 1 6			



WINTER KEEP AND FEEDING STUFFS.

THE question of keeping stock in good and thriving conditions through the coming winter is one that is exercising many minds at the present time, but in very varying degrees. Had not the hay crop been a good one generally, and its condition when stacked the best on record, much greater anxiety must have been felt in many districts; but with a yard full of fine hay the farmer in a grass country feels himself well prepared for all emergencies.

This year's hay crop, though not more than the average in bulk per acre, was exceptionally well got, besides which the acreage was 120,000 acres over that of last year, and the highest since 1895. Taking into consideration the higher feeding quality of the present crop it is probably the most valuable one we have had for many years. If the grass-land farmer had plenty of present grass to keep him off his winter stores he would be in a more than usually favourable position; but except in the far north the pastures have become bare by reason of the drought, and very little food is left, with small prospect of further growth before spring.

This is particularly noticeable in the south, where the fields present an appearance similar to that of 1893. This must cause a considerable demand on the hay store, and good though the latter may be there may be little of it left next May. There is no likelihood, however, of a scarcity sufficient to force prices up above the average, but hay will advance considerably on its present low price.

When we come to look at strictly arable districts the outlook for winter keep is not so satisfactory. Here the hay, being grown only on a small area, does not count for much, and the root crop is looked upon as being the sheet anchor of the grazier for purposes of winter keep.

After a long spell of hot weather, rain often has a marvellous effect on the growth of Turnips, and even yet it is just possible that rain may come in time to greatly benefit the present crop; but the mildew has been so prevalent, and the roots are in so many instances prematurely ripened, that we shall more likely have to take the root crops as they are, than hope for much material increase.

One thing is certain, and that is—that on all except the heaviest soils quality will not be high, or, as the farmer generally puts it, "Turnips will be poor meat to year." On all light soils Turnips are not only small in size, but very tough and woody, owing to absence of sufficient moisture. Now, a Turnip of this kind is much less digestible than one which is grown rapidly, and naturally contains a normal percentage of moisture. With such roots we should advise the use of linseed cake in preference to cotton, and a little crushed malt is very useful in assisting digestion; but in using malt it is advisable to be careful to limit the quantity, for animals soon tire of too much, or rather they get so particular that they will eat nothing else, and not much of it; 10 or 12 per cent. of malt would be quite sufficient in a mixture of artificial foods. Linseed cake is reasonable in price, being procurable for about £7 per ton, and it is such a safe thing to use that it can be thoroughly recommended. For young animals especially it is most essential. Cattle under a year old must have it if they are to make the best of progress towards early maturity.

Arable farmers do not always make the best use of their straw. They are apt to look too much to economy of labour, and waste good straw by giving it to cattle by the cartload, to be only partially consumed, but chiefly trodden down in the old rough and ready way. If Barley and Oat straw be chaffed or cut up for use, it will go twice as far as whole straw. A small amount of pulped root mixed with the straw makes the latter more palatable, whilst the roots go much further given this way than in slices.

If the straw and pulp are mixed a day before use a gentle fermentation is set up and the food will be more digestible, but the fermentation should not get too far advanced, or harm may ensue. Whilst the heap is warm it will be good and most acceptable to the stock, but it will not be wholesome after it has cooled down.

Dried grains and malt culm are excellent foods to mix with the above. For breeding or holding stock no other artificial will be necessary, but for feeding cattle oil cake must be added, but given separately. The grains or culms should be well mixed with the chop and pulp an hour or two before use.

When referring to the use of malt we chiefly had in view the sheep, as the latter are kept so close upon Turnips in many parts that the wholesomeness of the roots makes a great difference to the health of the animals, and if Turnips are none too plentiful, besides being woody and unwholesome, it is best to add to them one good meal per day of cut straw mixed, or rather flavoured, with a mixture of malt, bean or pea meal, decorticated cotton meal and grains, also a little locust meal if it is easily available. Half pound per head per day of this given in cut straw late in the afternoon will encourage the appetite and stay well on the stomach during the long winter night.

If linseed cake be given in addition, as we should recommend, it had better be given just before noon. But whatever hour be chosen to give any artificial, that hour must be adhered to punctually, for if the animals be kept waiting beyond the usual time they become very uneasy, and wander restlessly about the fold, which is not conducive to good feeding. It is just the same with cattle, and any observant farmer will see at once, on inspecting a flock or herd, whether the shepherd or herdsman really understands his business.

WORK ON THE HOME FARM.

Although we have had a few hours' rain and showers pass over occasionally, still the weather on the whole remains dry. The rain that has fallen has had no effect on the dry soil, and only a very temporary one on pastures and roots. It has certainly given the Turnips a much fresher and less limp appearance, but we must have more to do permanent good.

Seed ploughing seems to be as far off as ever. We have seen a few ploughs at work, but it is more like turf-paring than ploughing. How sufficient soil can be found to cover the seed grain would appear to us an insoluble problem. Perhaps a good plan would be to break up the sod of such a thin ploughing and get it well worked down into very small pieces, then wait until the land can be properly ploughed; after which ploughing the Wheat might be drilled at once with a fair chance of doing well.

Potatoes are nearly all up, and the harvest of the tuber has been as favourable as the harvest of the grain. The crop we should estimate as about an average one, but much above the average in quality. There is little disease, and they have been stored in such clean, dry condition, that there should be no fear of disease in the pie. They have come up a little too clean, for at £3 a ton a little soil is well sold, and very little of mother earth will get to market this year.

We hear of the new Potato "Up-to-Date" yielding 15 tons per acre, but cannot vouch for the truth of it; personally, we find 10 tons a paying crop, and are quite satisfied with that quantity.

With fine weather, and practicable work scarce, the thrashing machine is kept well employed. Large quantities of Barley have been knocked out, and supplies have been heavy, but demand has been equal to it, and prices have risen since last week. Wheat is weak; this may be due to the want of demand for seed, as many farmers do not buy until they are ready to sow.

Hens have laid well so far, but the eggs are beginning to dwindle down in numbers now, so prices are hardening, and we can get 1d. each for them.

LIVERPOOL DISTRICT FARMERS' EXHIBITION

OCTOBER 15TH.

THE ninth exhibition of the above Society was opened in the vicinity of the North Haymarket on Saturday last by the Lord Mayor of Liverpool (Alderman John Houlding) in the presence of a large assemblage of leading farmers and horticulturists. The Lord Mayor's remarks were much to the point, more especially as regards the question of milk on the Continent, which, he said, went through a process of freezing in the factories, and could then be easily separated, and was in excellent condition.

Mr. Webster said he was sure all would be delighted at the interesting statement made by the Lord Mayor, and instanced various places in Lancashire, where similar operations were being conducted with much success.

Dr. McMurray, Mayor of Bootle, supported, and later on in the day Lord Stanley and Mr. Brighouse were taking the greatest interest in the proceedings, Lord Stanley remarking that everything the House of

Stanley could do to help forward for the good of agriculture they would willingly do.

Mr. Brighouse in an excellent speech urged all connected with the land not to cling altogether to old ideas, but to use scientific principles also, bearing testimony to the value of artificial manures. By inculcating science with practice, he was quite sure that the British farmer would be able to hold his own against the world.

The Show itself was one of great excellence, and to make it more attractive to outside visitors the Committee included grain, Potatoes, root, vegetables, fruit, hay and straw, the wonderful display brought together eclipsing all previous efforts. The grain classes were well contested, Messrs. Webb of Wordsley offering several special prizes.

One long stage running the length of the large tent with plates six deep was not nearly sufficient to hold the handsome Potatoes, and nowhere could a faulty dish be found. Mr. E. Tinsley won in the class for Sutton's Early Regents. For any other early round Harbinger won for Mr. P. Davies. For second early kidney Mr. E. Tinsley won with Twist's Perfection; second early round, Mr. J. Johnson won with White Perfection, also for any other shaped with Sutton's Seedling, and for variety Snowdrop. Messrs. J. Halsall and T. Alty won with Lymm Greys and Reading Giants, the last named exhibitor also winning with Up-to-Date and Fidler's Colossal. Mr. Johnson won with Sutton's Abundance and Late Bruce; Mr. Raymond with Satisfaction; and for late round red or coloured with Vicar of Laleham. Mr. Tinsley won with Late Maincrop; Mr. T. Rimmer with Farmer's Glory; Mr. P. Davies, any late round, with Saxons.

For any shaped coloured Potato, not round, Mr. J. R. Newton won with Peerless Rose; and in a similar class for round Mr. G. H. Colin with Vicar of Laleham. In classes for coloured, not round (late variety), Mr. D. Bowen won with Edgecote Purple. Several of the newer varieties, and those for specials given by Messrs Sutton & Sons; Daniels Bros., Norwich; Mr. Wm. Kerr, Dumfries; Mr. Hutton, and Messrs. Fidler and Sons, Reading, were not ticketed before our representative left, but those amongst the newer ones honoured were Challenge, Fidler's Queen, Prize-winner, and General Roberts.

The display of roots was grand, almost all our well known firms, including Manchester, Chester, and Liverpool, offering special prizes. Cauliflowers and Carrots were models, Messrs. C. Warburton, W. Shepherd, J. R. Carter, and B. Ashton, gardener to the Earl of Lathom, Ormskirk, winning. Celery, Beet, Parsnips, Leeks, and Onions were of highest quality, but Tomatoes were not too good.

Fruit, with the exception of Apples, was not in great quantity, but the quality excellent. For culinary Apples Mr. G. H. Colin won with Peasgood's Nonesuch, also special with Mère de Ménage, also for culinary Pears with Uvedale's St. Germain. For dessert Apples Mr. Mackarell won with Ribstons, and for Pears Canon Blundell with Marie Louise. The special for dessert Apples and Pears went to Messrs. T. Lunt and Robert Bennett with Cox's Orange Pippins and Williams' Bon Chrétien. For any other variety of fruit Mr. S. Milliken won with Muscat of Alexandria Grapes.

Amongst the trade exhibiting, Messrs. Dickson, Ltd., Chester, were noticeable; they had a handsome contribution of Apples, Potatoes, and other produce. Messrs. Dickson & Robinson, Manchester, a varied collection of choice varieties of Potatoes and various roots. Messrs. W. Kerr, Dumfries, Potatoes; Mr. Henry Middlehurst, Gateacre, Liverpool, Swedes; and Mr. W. Kerr, Liverpool, a fine miscellaneous stand. Notwithstanding the heavy rains in the morning, the interest taken by visitors was such as to keep the show crowded all day. The success of the show is largely due to the admirable President, James Birch, Esq., and the indefatigable exertions of the joint Hon. Secretaries, Messrs. Austin Peppin and Robert Mawdsley.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1898. October.		Barometer at 32°, and Sea Level	Hygrometer		Direction of Wind.	Temp. of soil at 1 foot	Shade Tem. perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun	On Grass	
		inches	deg.	deg.		deg.	deg.	deg.	deg.	deg.	inches.
Sunday	9	30.038	51.2	46.9	N. E.	55.1	60.1	41.6	85.7	36.2	0.079
Monday	10	30.124	49.2	48.7	N.	54.7	58.9	47.1	89.1	44.9	—
Tuesday	11	30.032	45.6	45.2	N. W.	53.9	53.9	41.9	71.4	40.9	—
Wednesday	12	29.983	48.8	46.1	N. W.	52.4	59.9	41.9	97.3	37.0	—
Thursday	13	29.927	45.9	45.4	N.	52.0	55.3	40.4	83.6	33.6	—
Friday	14	29.721	50.4	49.3	E.	51.7	58.9	40.7	82.4	35.6	0.098
Saturday	15	29.225	51.2	49.2	E	52.0	52.6	49.8	55.1	47.3	0.081
		29.864	48.9	47.3		53.1	57.1	43.3	80.7	39.4	0.258

9th.—Sunny morning; clouding over about noon, and rainy from 1 P.M. to 8.30 P.M.

10th.—Overcast morning; frequent sunshine in afternoon.

11th.—Fog early, then overcast and spots of rain at noon; sunny afternoon.

12th.—Bright sun till 3 P.M.; heavy and rather threatening clouds towards sunset.

13th.—Overcast early; faint sun at midday; fog from 3 P.M.

14th.—Overcast early; faint sun for three or four hours at midday, overcast later, and rain from 10 P.M.

15th.—Rain till 3 A.M., overcast and damp morning; frequent rain after 4 P.M.

A week of average temperature and small rainfall. Little fog and a fair amount of sunshine.—G. J. SYMONS.

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Journal of Horticulture.

THURSDAY, OCTOBER 27, 1898.

THE JOURNAL OF HORTICULTURE can be obtained from the Office, 12, Mitre Court Chambers, Fleet St., London, post free for a Quarter, 3/9. Editorial communications must be addressed to 8, Rose Hill Rd., Wandsworth, S.W.

PLUMS ON SOUTH WALLS.

DURING the past few years south walls have lost some of the high value once set upon them for the culture of Apricots, Peaches, and Nectarines, because of the uncertainty of these fruits through spring frosts, and cold winds destroying the blossoms, and blister causing the defoliation of the trees. The last-named is not only a serious hindrance to the trees themselves, but the labour it entails in so often going over them for the purpose of removal, and the disappointment raised by the indifferent results from so much labour, places a serious obstacle in the way of planting either. Apricots, too, are so prone to branch losses through disease, canker, or some other debility, that the prospect in some gardens of producing the luscious fruit is, or has been, considered a hopeless one. The failure of these brought Pears and Plums into prominence as substitutes, but whether this step will, or has proved a prudent one can best be determined by those who have the opportunities of judging such cases on the spot.

Plums in this garden occupy mostly east and west walls, and, so far as I am able to judge, there is no great superiority in one over the other. The only time when advantage presents itself is at the flowering season, when spring frosts are such a terror to the one responsible for their safety. Everyone knows the action of sunshine on frosty mornings as affecting tender flowers and foliage. Trees on an east aspect catch the earliest sun ray; on the opposite side of the wall they are protected from sun until the temperature is raised well above frost line. Trees which get the morning sun, too, are earlier in flowering than others on a west wall, but the early bloom is not always attended with a corresponding gain in the time of ripening.

I do not consider that there is much to choose between late and early flowering varieties as to their relative safety from frost visitations, for sometimes the one is caught in one season, and in another just the opposite happens. There is no certainty whatever of the time when frost may be expected; on the contrary, it may happen

any morning throughout the spring months, and sometimes it comes when least expected.

As I have previously intimated, these fruits are grown mostly on east and west walls here, less than half a dozen occupy a southern position, and these I believe to have been planted where failures occurred with Peaches and Apricots, or with the object of getting early fruits of those planted. Naturally, one would suppose that the greater gain in sunshine obtained from a southern aspect would tend to a much earlier maturation of the crop; but in the case of Plums, or at any rate of the varieties so favoured, I have failed to find these conditions obtain. Their removal has for some time been decided on, and their places will be utilised for Peaches or Apricots.

Jefferson and Kirke's are varieties duplicated on the three aspects, and though it is scarcely credible it is none the less true, that ripe Plums have been gathered almost annually from east and west walls before they were ready on the trees occupying a southern aspect. This season they were cleared from all other trees before many of those on the south were ripe. The only point scored is in colour gained in the yellow variety, which so far as this and size are concerned, might be all that can be wished. The black variety was neither better nor worse from the south than from trees on east and west walls, so that I would neither adopt nor advocate the planting of Plums on a south aspect unless it were proved that Peaches, Nectarines, Figs, or Apricots were failures from causes over which the gardener in charge had no control, or where a sufficiency of such fruits was forthcoming without recourse to open air culture.

My experience thus related may be an isolated one, but when Plums of all kinds grow and fruit well on cooler sites, it proves pretty conclusively that the soil and position are suited to them. What conclusions may be drawn from this later ripening on trees having a warmer sunny wall? I think it shows that their nature is opposed to it, and the greater warmth presented does not bring forth any responsive action.—W. S., *Rood Ashton, Wilts.*

BULBS AND THEIR CULTURE.

(Continued from page 279.)

OTHER USEFUL SPECIES AND VARIETIES.

THE dreariness of winter is now almost a myth to those who have the control of glass structures, and the means at command of investing a few pounds in bulbs; for they can easily secure a succession of brightly coloured flowers from November onward to the sunny days of spring. The pure drooping bells of Snowdrops, the brilliantly coloured Crocus in many hues, the gorgeous Tulips, quaint Iris, fragrant Jonquil, Alliums, and Scillas may all be turned to good account in making the darkest day resplendent in living beauty. Let us therefore consider a few of the many ways in which they may be used to advantage.

Snowdrops and Crocus should be potted or boxed at once, if the operation has not already been performed. By planting in boxes and transferring to pots as soon as the flowers show colour evenly flowered potfuls are easily obtained; but as in the case of Tulips they do not last so long in flower as when no transplanting takes place. The plan I adopt is as follows:—If the bulbs are examined many of them will by this time be found starting into growth; if these are selected and placed in pots they may be depended upon to flower simultaneously. Six or seven bulbs in a 4-inch pot or nine or ten in a 5-inch one make a nice display. The unstarted bulbs should be placed an inch apart in boxes, and in due time be transferred to pots. A succession can thus be secured without subjecting any of them to a higher temperature than that of an ordinary greenhouse. As a rule each pot should contain one variety only, but those who have a fancy for mixtures can easily mix them at transplanting time.

Good Crocuses are Baron Von Brunow (dark blue), Prince of Wales (fine blue), Ne Plus Ultra (blue white bordered), and Othello (dark purple). Among yellow varieties the old Cloth of Gold may be obtained cheaply, and is good for use on a large scale, but a few bulbs of such fine new additions as Golden Nugget and Golden Yellow also ought to be obtained. The pots containing the corms should of course be plunged in the open air for a few weeks, and as soon as roots are plentiful be removed to a greenhouse or pit, in which position they may be had in flower slightly ahead of those in warm positions in the open air. Snowdrops can also be treated in precisely the same way. All the varieties are beautiful, but I prefer the single forms, as to my mind they are more dainty and graceful than the double ones. The giant species should also be grown, as they are imposing among Snowdrops, and extremely pretty in the markings of their sepals.

Scillas, among which *sibirica*, with its intensely rich blue flowers, is perhaps the best form, are also well adapted for pot culture. To see them to advantage they should be massed when in flower. For private gardens an excellent plan to follow is to set the bulbs in boxes,

and transplant as they are coming into flower. In many places where decorations are well carried out, numbers of bowls and shallow glasses or pans constantly need filling with flowering plants or Ferns. If some of these are packed with Scillas in flower, and have newly rooted cuttings of *Panicum variegatum* inserted round the edges, a rich effect is produced, provided the mass is placed in a position where there is plenty of light; in a dark corner it would look dull and uninteresting. Other varieties worth growing are *præcox superba*, *campanulata alba*, and *c. rosea*.

Let us now turn to the brightly coloured and deliciously scented Jonquils. The two varieties best adapted for pot culture are the large double and the single. The first-named resents being forced sharply; when it is attempted many of the buds go "blind," and although the single variety is not a suitable bulb for early forcing, it succeeds well if brought on in a gentle heat in January or February, when the flowers are much prized, not only on account of their fragrance, but also because, being borne on long slender stems, they are in great request for mixing with the many short-stemmed flowers used at that season.

Allium neapolitanum is another long-stemmed flower, which has been much grown during recent years, and must be classed with bulbs that require bringing on steadily in a comparatively cool temperature. The flowers, which are pearly white, being borne in large umbels, are adapted for use in a cut state, or for supplying lightness to groups of pot plants. Parrot Tulips—what a sensation these created when first brought prominently forward! Other Tulips may be gorgeous, wonderful in their intricate markings and exquisite blending of colours, but the "Parrots" stand unique among them all; they have peculiarly attractive colours, jagged and feathered edges to their petals, which shock the eyes of the old Tulip fanciers; yet their unconventional forms, quaint and delightful colour marking, appeal to all with artistic tastes. Truly they are rightly named, for the rich colour markings to be seen in many chattering feathered pets has been sprung upon us in this race of Tulips, fortunately minus the sound and fury of their namesakes. The secret of success in cultivating Parrot Tulips is not to attempt to force them, as they are essentially late flowering. They ought to be left in the plunging material until the top growth is $1\frac{1}{2}$ inch in length, and then be placed in cool houses or pits. The following are some of the best varieties to grow: Admiral de Constantinople, cornuta, lutea major, monstre rouge, viridiflora, rubra et lutea, and Feu Brilliant. He would be a bold man who attempted to minutely describe the colours of these varieties; I will certainly not attempt to do so.

Iris hispanica.—Many lovely varieties of this species may now be bought very cheaply, and their culture, both in pots and in the open air, is extending by leaps and bounds. This cannot be wondered at, for they supply long-stemmed flowers, which are showy, extremely useful, and uncommonly beautiful. Two good varieties for forcing are Snowflake and Belle Chinoise. For this purpose the corms, which are small, should be placed an inch apart in boxes, these being plunged in the open air, and taken into the forcing house early in January. They are chiefly valuable for supplying cut flowers, but when brought on steadily they are showy as pot plants. For use in this way, from twelve to fifteen corms should be placed in a 5 or 6-inch pot. Good varieties for bringing on in gentle heat in spring are Alexander Von Humboldt, blue; blanche superbe, white; British Queen, white; jaune brillante, dark yellow; Leander, yellow (scented); Prince of Orange, white and yellow; lilaceus, lilac blue; and Mary, porcelain blue. When once the culture of these flowers is begun, it is too fascinating to be relinquished.—H. D.

(To be continued.)

STRAWBERRY ST. JOSEPH.

I THINK there is no doubt we have in this Strawberry a fruit that can, and will, be turned to good account where ripe Strawberries would be appreciated in October and November; and surely a dish of Strawberries could not fail to be welcome at the time of year named. Last autumn, rather late, I procured twelve very small runners, and planted them on a wall border facing south-west. They, I may say, just lived through the mild winter, and began to grow freely in early spring. Very early in their progress they began to produce runners, and continued to do so at a prodigious rate.

The earlier made runners commenced throwing up flower stems in August. These runners, hundreds of them, were cleared away to be turned into stock plants. The twelve parents were very soon what might be termed smothered with flower stems, and they have been ripening fruits about the size of Cob Nuts, of a bright red colour, and of brisk pleasant flavour. The equinox has put a stop to their ripening, but pale, almost white, berries are very plentiful in a circle round each plant. I am convinced that to get plenty of ripe fruits now for weeks, it might be months, onward, it would only be necessary to prepare any required number of plants in pots, or even narrow boxes, that could be introduced to shelves in warm pits or houses.

These might stand in cold frames till the fruits were nearly full size, or even be grown outdoors till far on in October.

INCREASING STRAWBERRIES—THE "CATS'-TEETH" SYSTEM.

While on the subject of Strawberries it may be useful to amateurs, if to no others, if I refer to a practice I have adopted in the case of making new plantations of Strawberries where space is limited and a good crop of fine fruit desired the following year. This is of importance where there is not the command of forced plants that can be planted out in early summer.

If the first runners—always the strongest—that healthy outdoor plants make are detached from the parent when the plantlets have pushed out roots just about the size and appearance of cats' teeth, with 2 inches of the shank or stems attached and these are pricked into a bed of light rich earth with which some sifted horse droppings are incorporated to the depth of 3 inches or so, watered and shaded from the sun until they get hold of the bed, they soon grow into fine stiff plants. By the time some early crop of vegetables are cleared these will be strong, and lift with fine balls without breaking a root, and can be planted as a succession crop, having the whole summer and autumn to develop into plants that will bear a splendid crop of fruit the next year.

If it is decided to let them bear only one crop—a good plan in the case of such varieties as John Ruskin and Royal Sovereign—they can be planted closer in the rows, say a foot asunder, than the orthodox distance. These plants thus managed give crops of the very finest Strawberries. I am confident that this is a system that would suit amateurs with limited space remarkably well. Instead of planting runners that are not detached from the bearing plants till August and September, when the season for making fine strong rows is not before them, and they are wiry and attenuated, the crop they yield the first season is poor and scant comparatively.

Strawberry plants are to a great extent spoilt when not taken till after the crops are gathered. Acting on this fact, when I, forty years since, commenced planting thickly in rows, by the side of walks and alleys, stout early runners to be left there to produce young plants for preparing in pots for forcing, I was never satisfied unless they were in the fruiting pots by the first week in July.—D. THOMSON.

[The method of propagation advised, and now given a characteristic name, is largely adopted by some growers of forced Strawberries for market. We have seen thousands of such "cats' teeth" runner cuttings inserted in as many 6-inch pots firmly filled with good soil at the end of May and early in June, and the pots arranged on ashes in the open where the plants were to grow. Even if bright sunny days follow, few of the plantlets fail under frequent sprinklings through the hose. In smaller cultures outdoors, if the "cats' teeth" cuttings are shaded as advised in bright weather, fine plants are obtained the sooner, and under good subsequent management produce splendid crops of handsome fruit the following year.]

SPECULATIONS.

ALTHOUGH a matter occurred in the article on page 299 of your *Journal*, headed "Big Potato Crop," I do not wish to say anything about Potatoes. It is the other item included, concerning weather, which prompts me to concur with the complete justification "A. D." had in a moderate critique of the estimate made elsewhere as to 15 inches of rain being due before Christmas, and innocently suggesting the ideal measure of 5 inches instead, from the point of view of benefit for all cultivators. Without looking into Mr. Pea's Japanese mirror, I should not be aware, however, of "A. D." being up in arms. He may be so for all I know if convenient, and, if he cares, effectively, and I do not presume to fight battles successfully for this gladiator of the pen. However, let me admit that I quite enjoy the sprightly and informing mould of Mr. Pea's articles, and whenever he does not contribute, I come to think one of the better coadjutors of your *Journal* is silent. I am sorry Mr. Pea had nothing more instructive to say at the moment, and had recourse to banter, as the object of his challenging the item in question.

Let us, however, speculate a little further, and remember the thirty-five years complete cycle period that may be useful to bear in mind as being held in some quarters, with seventeen years more or less wet, and as many more or less dry. Being a lover of horticulture of many years standing, I well remember when spending July and August abroad in, I think, 1871, the deplorable accounts in my gardener's letters as to the trouble of keeping things alive through the drought. I returned on 1st September only to find things as stated, and yet no rain fell up to 15th October, exactly like this year. That year, say 1871, would therefore occur among the relatively dry seventeen years, whereas 1879 we should have to include among the wet division, as nobody will forget who experienced it. Have we not had a series of years more or less constant since 1893 to classify among seventeen years relatively dry? Why not from this reasoning admit the chances referred to by "A. D." of want of rain again in 1899? Does it not behove us to bestir ourselves at length in matters of artesian wells and irrigation?

When Mr. Pea gives details, such as his visit to Ghent earlier in the year, and his late analysis of judges at the Shrewsbury Show, and probably many other instances that I might cite, he is thoroughly

interesting from my point of view. But so is "A. D." and very instructive as well, in his thoughtful and copious series of notes and articles in horticultural literature.—H. H. R.

[Our facile correspondent may possibly be open to correction in his reference to Shrewsbury. Be that as it may, we are inclined to think he need not take Mr. Pea and "A. D." too seriously. We suspect they understand each other pretty well. Young men, and even some not very young, except in mental activity, are prone to indulge in a pen frolic now and then as a foil to the essential workaday matter of the heavy brigade.]

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL.—OCTOBER 25TH.

ON Tuesday the Drill Hall was almost completely filled with excellent exhibits of the most varied character. There were large numbers of Chrysanthemums with Dahlias, fruit, vegetables, various plants, and Orchids.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); with Rev. W. Wilks, and Messrs. T. F. Rivers, G. Bunyard, J. H. Veitch, A. F. Barron, A. H. Pearson, R. Parker, G. Norman, J. Smith, F. Q. Lane, H. Balderson, G. Wythes, T. G. Miles, W. Bates, G. Woodward, A. Dean, J. Cheal, and J. Wright.

Mr. C. Herrin sent from Dropmore a dish each of Coe's Golden Drop and Brahy's Green Gage Plums; very fine (vote of thanks). Mr. J. Vert sent from Saffron Walden rarely seen fruits of *Gynocladus canadensis*, resembling wrinkled Walnuts (vote of thanks).

Mr. W. Miller sent fruits of Wm. Tillery Melon, the variety which he raised many years ago; a good, well proved variety (vote of thanks). Mr. A. Taylor, Rowan Villa, Ash Vale, Surrey, sent a seedling Apple resembling Adam's Pearmain, though not so good. Mr. W. Crump sent from Madresfield Court fine fruits of Maltster Apple. This variety is largely grown in Notts, and trees are killed by unusually severe frost. Some "new seedling" Apples were sent from Sainsbury Green, Southampton. One was Worcester Pearmain, another Spencer's Favourite a third Tower of Glamis, and the rest worthless.

Mr. W. Miller sent from Coombe Abbey, Coventry, a box of fruits of *Passiflora edulis*, and a cultural commendation was awarded. Mr. J. C. Bruce, Old Garrock, Galloway, sent ten varieties of Apples grown 500 feet above sea, and in a district "visited by frost every month of the year." Some were very fine, and a cultural commendation was awarded. Mr. H. H. Raschen sent Apples of Pigeon Rouge and Pigeon Blanc. The first named is so called from the supposed resemblance of the bloom with the plumage of a dove (vote of thanks).

Mr. G. Wythes sent a bunch of a dwarf-growing variety of *Musa Cavendishii*. The Committee decided to wait for another year's experience. Mr. Wythes also sent a new variety of Tomato, the cluster being produced and fruits ripened in ten months on a plant 5 feet high—to be tried at Chiswick. A fruiting spray of *Diospyros Kaki* was sent from Bitton Vicarage, Bristol, by Canon Ellacombe, grown against a south wall in the open (vote of thanks).

Large and meritorious collections of fruit were exhibited. Messrs. J. Laing & Sons staged 100 dishes of Apples (silver Knightian medal). Forty dishes of Apples and Pears were sent by Mr. J. Prewett, gardener to C. A. Pearson, Esq., Frensham (small Banksian medal).

Messrs. J. Cheal & Son exhibited 100 dishes of Apples (silver Knightian medal). Mr. G. Woodward, gardener to Roger Leigh, Esq., Barham Court, sent 100 dishes of handsome Apples and Pears (Hogg Memorial medal).

Mr. E. Beckett sent from Aldenham House thirteen varieties of splendidly grown Celery (silver Banksian medal). Mr. Howe, gardener to Sir H. Tate, sent large clusters of Alicante Grapes (cultural commendation).

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with Messrs. J. Fraser, O. Thomas, H. B. May, R. Dean, G. Stevens, W. Howe, J. Hudson, R. B. Lowe, J. Walker, J. D. Pawle, H. J. Cutbush, H. J. Jones, E. T. Cook, G. Paul, and C. T. Drury.

Mr. W. Howe, gardener to Sir Henry Tate, Streatham, arranged a handsome group of foliage plants. The plants were excellently grown and most effectively arranged. They comprised all the most useful decorative kinds (silver-gilt Banksian medal). Messrs. T. Hill & Son, Lower Edmonton, staged a number of finely grown Ferns in variety (silver-gilt Banksian medal). One-half of a central table was occupied by Mr. H. B. May, Upper Edmonton, with well flowered specimens of *Begonia Gloire de Lorraine*, *Bouvardias*, Ferns, *Crotons*, *Carnations*, *Chrysanthemums*, and other plants. The arrangement was artistic (silver Flora medal).

Mr. T. S. Ware, Ltd., Tottenham, staged an extensive display of Cactus, Pompon, and single Dahlias. In the former section Sylvia, Starfish, Cycle, Africa, Leonora, and Chas. Woodbridge were very conspicuous. The Pompons and singles comprised all the popular varieties in each section. The same firm also contributed a collection of early flowering *Chrysanthemums* (silver Banksian medal). Mr. S. Mortimer, Farnham, exhibited a very fine display of Cactus, Show, and Fancy Dahlias. The blooms were very bright and fresh-looking (silver Flora medal).

Mr. W. Wells, Earlswood Nurseries, Redhill, contributed a grand display of *Chrysanthemums*, consisting of specimen plants, bush plants, and cut flowers. Mrs. White Popham, Master H. Tucker, Général Paque, Madame Desblanc, Le Grand Dragon, Madame C. du Terrail, and President Bevan were conspicuous in the new varieties. Crimson Pride,

Market White, Mychett Beauty, Nellie Brown, Bouquet Feu, A. Beuret, and Mons. Backmann were the best in the decorative classes (silver Flora medal). Messrs. J. Cheal & Son, Crawley, staged a beautiful collection of coloured foliage. Messrs. Wm. Cutbush & Son, Highgate, staged a group of miscellaneous plants. Mr. A. Kingsmill, Harrow Weald, exhibited a pretty display of *Vitis heterophylla humulifolia*, the Hop-leaved Vine, bearing numerous bunches of blue and purple berries.

Messrs. H. Cannell & Sons, Swanley, exhibited specimen flowers of *Chrysanthemums* edged with *Polygonum*. The best flowers were *Soleil d'Octobre*, Mrs. White Popham, Queen of Portugal, Iserette, and Chatsworth. Mr. W. L. Farmer, gardener to H. P. Leschelles, Esq., Windlesham, staged a very good sport from *Reine d'Angleterre*. Messrs. John Waterer & Sons, Ltd., exhibited a group of Conifers, all remarkable for their bright colouring (silver gilt Flora medal).

Mr. J. Prewett, gardener to C. A. Pearson, Esq., Farnham, exhibited three boxes of cut *Chrysanthemums*, two of Japanese and one of incurved varieties. The former section were represented by good blooms of Thos. Wilkins, Emily Silsbury, Phœbus, Mrs. G. W. Palmer, and M. Massange de Louvres (silver Banksian medal). Mr. W. J. Godfrey, Exmouth, also staged a good collection of cut *Chrysanthemums*. The best blooms were Werther, Rayonante, Reginald Godfrey, Golden Standard, Mad. Couvatde Terrail, President Bevan, and Major Matthew, a capital lilac pink incurved variety. Mr. R. Owen, Maidenhead, staged a good display of large flowers.

Mr. H. J. Jones, Lewisham, exhibited a few new varieties of special merit; Rayonante, Lionel Humphrey, General Paque, Mulusine, President Nonin, and *Soleil d'Octobre* were the best varieties. Mr. W. Seward, Hanwell, exhibited four seedlings, but they arrived too late to be brought before the Committee. Two of them were very good—namely, Mrs. W. Seward and Ellen Shrimpton.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, De B. Crawshay, F. Sander, H. Williams, J. T. Gabriel, H. J. Chapman, W. H. Young, E. Hill, W. Thompson, C. Winn, S. Courtauld, H. M. Pollett, J. Douglas, T. W. Bond, and T. B. Haywood.

A charming group of Orchids came from Messrs. J. Veitch & Sons, Ltd., Chelsea. The several plants were well grown and flowered. Very showy were *Cattleyas* *Bowringiana*, *Wendlandiana*, *Mantini*, and *labiata*; *Lælio-Cattleyas* *Nysa* and *callistoglossa ignescens*, *Oncidiums*, and numerous *Cypripediums*, of which *insigne Sanderæ* was fine, with a few others (silver Flora medal). Messrs. S. Mobbs & Ashton, Southgate, sent *Lælia pumila*, *Cattleya gigas*, *Odontoglossum crispum*, *Cattleya Loddigesi*, and others in good form (silver Banksian medal). Messrs. F. Sander & Co., St. Albans, in addition to examples of *Acalypha Sanderi*, exhibited *Cattleya labiata*, *C. Harrisoniæ*, *Cymbidium grandiflorum*, and *Habenaria carnea*. Mr. W. H. Young, Orchid grower to Sir Frederick Wigan, Bart., East Sheen, was represented by *Cyperorchis elegans*, *Cymbidium Winnianum*, *Lælia Perrini leucophæns*, *Cattleya Eldorado*, *C. Dowiana aurea*, *C. labiata alba*, with a few *Cypripediums* amongst others (silver Banksian medal).

Mr. W. Goodcliffe, Worthing, sent a *Cypripedium* from a cross between *Io grande* and *Boxalli*. Mr. J. Davis, gardener to J. G. Fowler, Esq., Woodford, showed the *Glebelands* variety of *Cypripedium insigne*. Besides these, small exhibits of Orchids came from Messrs. J. Douglas, Great Bookham; W. King, gardener to J. Colman, Esq., Reigate; W. Cobb, Tunbridge Wells; C. A. Roberts, Ipswich; and H. Low and Co., Upper Clapton.

CERTIFICATES AND AWARDS OF MERIT.

Cattleya Maroni (Mons. Chas. Maron).—This is a hybrid from a cross between *C. velutina* and *C. aurea*. The lip is the same in form as *C. aurea*, and is reddish purple in colour. The wavy petals and narrow sepals are deep chrome yellow (first-class certificate).

Chrysanthemum Nellie Brown (H. Cannell & Son and W. Wells).—A golden bronze sport from *Ryecroft Glory* (award of merit).

Chrysanthemum Soleil d'Octobre (H. J. Jones and R. Owen).—A reflexed Japanese of a deep canary yellow colour. It is one of the best October flowering varieties (award of merit).

Chrysanthemum Golden Queen of the Earlies (H. J. Jones).—As the name implies, this is a deep yellow sport from *Queen of Earlies* (award of merit).

Chrysanthemum Major Matthew (W. J. Godfrey).—A narrow floretted, true incurved, of good form. The colour is deep lilac (award of merit).

Chrysanthemum Baronne de Viellard (W. J. Godfrey).—A rich bronze coloured true incurved (award of merit).

Chrysanthemum Ettie Mitchell (W. J. Godfrey).—This belongs to the decorative section. It is a bronzy yellow reflexed flower (award of merit).

Dracæna Victoria (W. Bull).—A grand form, precisely of the habit of *Linden*. The colour is green and gold. It is a Brazilian plant (first-class certificate).

Lælia Perrini leucophæns (W. H. Young).—A most striking Orchid. The flowers are rather larger than those of the type. The sepals and petals are delicate mauve, the lip being deep slaty mauve, and the side lobes and throat soft primrose (award of merit).

Lælia pumila Colmani (W. King).—A grand form. The stout sepals and petals are delicately tinged with blush. The lip is crimson red save in the centre of the front lobe, which is white (award of merit).

Ptycosperma Sanderiana (F. Sander).—After the style of *Geonoma gracilis*, but more spreading in habit (first-class certificate).

Rose Sunrise (G. W. Piper).—A lovely Tea-scented variety that is deliciously fragrant. The under portion buff apricot, and the outer side bright cerise (award of merit).

LANGLEY.

THE beauties of Middle Green Farm, Langley, the Buckinghamshire nursery of Messrs. J. Veitch & Sons, Ltd., throughout the summer and autumn months have been told time after time in the pages of the *Journal of Horticulture*, while its resources, as represented by the fruit, Roses, Orchids, perennials, biennials, and annuals, have not been neglected. Nevertheless it is purposed again to refer to them as they were in 1898 for the especial benefit of those readers whose time will not permit of a personal visit, and whose journeyings do not take them on the Great Western line between London and Slough. The latter know well how gloriously beautiful have been the beds by the line-side this season, and though they cannot examine the fruit trees, those that are observable tell a tale of quality that is perceptible, even from the windows of the rapidly passing Cornishman or Flying Dutchman. For week after week and month after month the display has been maintained, and no more attractive sight can be imagined for the Londoner passing southward or westward for his annual vacation than this, which greets his vision twenty to twenty-five minutes after leaving the stuffy modern Babylon. That it is seen and appreciated is proven by the many letters that are received from travellers who desire information anent the various plants, and are unstinted in their expressions of admiration.

THE FLORAL FEAST.

On almost the last day of July the writer was whirled past the gaily beautiful grounds, and was more impressed by the excellence of the *Salpiglossis* and *Phloxes* than perhaps anything else. Closer examination towards the close of September revealed charms in the flowers that had hitherto been hidden. The beds of the former were one mass of various coloured flowers, whose softness of tone, shade, and venation were little

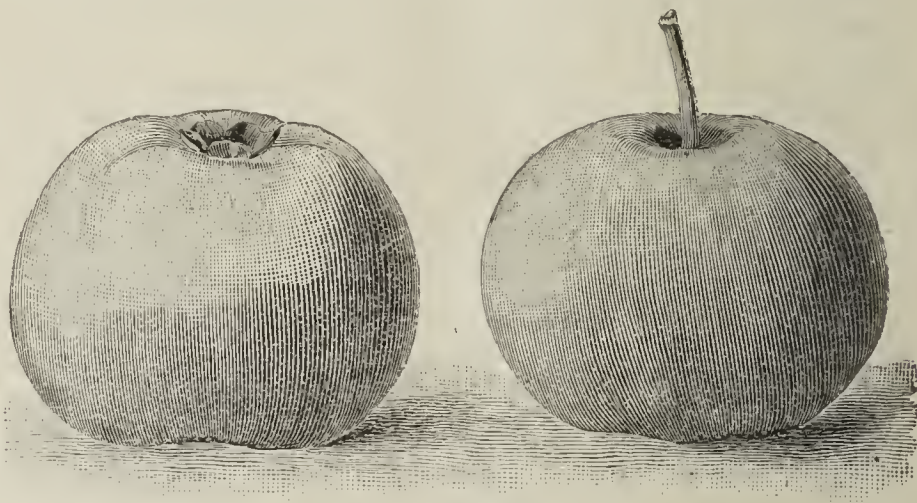


FIG. 55.—CRAB JOHN SEDEN.

short of surprising. The *Phloxes* of the *Drummondii* section were equally striking, though their beauty lies rather in the decisiveness of the colours than the delicacy of the first named. Then there were the *Marvel* of Peru, *Marigolds*, *Linums*, *Eschscholtzias*, and a host of other annual and biennial plants. The effect of these was set off as it were by stately *Helianthus*, floriferous *Michaelmas Daisies*, and several perennials of similar habit. But it is not from the line-side that the best perennials are to be seen, though the broad borders flanking the central path are rich in variety. For the herbaceous garden proper the nursery and canal must be crossed, and there will be found one of the most complete collections that an ardent hardy plantsman like Mr. Arnott need wish to see. All kinds and varieties have a place, and stocks of such as *Michaelmas Daisies*, *Helianthus*, *Physalis Franchetti*, *Iris*, *Doronicums*, and others are of a very great extent. Passing beyond this garden is found the trial ground, where the seeds sold from Chelsea are grown to prove the vegetative powers as well as the qualities of the flowers. Both these departments are managed by men whose training has been such as to insure efficiency in culture and systematic management.

APPLES AND PEARS.

Those who read the report of the Crystal Palace Fruit Show in the *Journal* for October 6th, will not need to be told how extensive is the variety of Apples grown at Langley, for the firm then staged 100 sorts, not highly fed fruit, but a fine typical collection, and for purposes of comparison most interesting. Looking at the differently shaped trees with their burden of fruit, it is a comparatively simple matter to see which are reliable as croppers, and this season has been a severe test. Amongst the best of the Apples are *King Harry*, which is of fine flavour; *Fraise d'Hoffingen*, a variety that ought to go to the front for market purposes, as it is a free bearer and of fine appearance; *Barnack Beauty*, a showy Apple of good quality, and *Barton's Incomparable*, which is after the style of *Golden Pippin*; while such better known sorts as *Bismarck*, *Bramley's Seedling*, *Tyler's Kernel*, *Stone's*, *Schoolmaster*, *Blenheim Pippin*, *Beauty of Stoke*, *Sandringham*, *Ecklinville Seedling*, *Seaton House*, *Newton Wonder*, *Lane's Prince Albert*, *Potts' Seedling*, *Cornish Gillflower*, *Cornish Aromatic*, *Cox's Orange Pippin*, *King of the Pippins*, *Court of Wick*, *Fearn's Pippin*, and others were grand.

Of Pears there is the same profusion of varieties and the same variation in quality. There are what may be termed the standard ones, that are almost invariably to be relied upon, as well as many of equal excellence.

that are more seldom seen in gardens. Prominent amongst these latter may be placed *Beurré Fouquieray*, *Marguerite Marillat*, *Dr. Hogg*, *Charles Ernest*, *Beurré Baltet Père*, *Princess*, *Baronne de Mello*, *Dana's Hovey*, a small highly flavoured February Pear, with numerous others, of which mention cannot be made. Each of these is of striking merit either as a cropper or by reason of its excellent flavour, while some fortunately combine these two very desirable attributes. Everyone, both of the Apples and Pears mentioned, is represented on two borders, bisecting the nursery and the trees, are either in bush form or pyramidal, as the case may be.

PLUMS AND CHERRIES.

At the Slough end of Middle Green Farm there is a border of trees that is occupied by Plums almost exclusively, and the trees are cropped year by year. In some seasons they are loaded with delicious fruits, and in others the crops are light. The stock of young trees is, as might be expected, very great and in the best of health. All varieties that are worth growing are largely represented, and the same may be said of the Cherries, of which there are quarters of the young standards as handsome as anyone need wish to see. They are healthy and well branched, with no grossness whatever. Other forms, of course, are also to be found in places, and they are all good, but none equals the standards just mentioned. No black fly finds a home at Langley to sap the trees' energies, for it is attacked on its advent and promptly eradicated.

BUSH FRUITS AND STRAWBERRIES.

Of Gooseberries, Currants, and Raspberries there are many thousands of plants of all ages, and in splendid condition. They have all made fine growth during the season. The three excellent new Gooseberries that Messrs. Veitch are sending out this season—*Langley Beauty*, *Langley Gage*, and *Golden Gem*—should become very popular, for they are possessed of the several attributes that go to make a good Gooseberry. The plants are all good growers. Red, White, and Black Currants, with Raspberries, are in pronounced evidence, and comprise all the leading varieties, with several of the less commonly seen sorts. Strawberries, such as *Veitch's Perfection*, *Exquisite*, *Veitch's Prolific*, and *St. Joseph*, occupy a goodly amount of space, and are all worthy of cultivation, the first two for excellence of flavour, and the last two for their free cropping proclivities. The plants of the last named were girdled with ripe and unripe fruits when this visit was paid, and it is practically certain that it will be enormously grown in the near future for the production of late fruit.

TRAINED TREES AND CRABS.

It is perfectly well known that the firm makes a great speciality of trees trained in all forms, and their horizontal, fan, and other shaped Apples, Pears, Plums, Peaches, Nectarines, and Cherries are all models of good work. They are clean in the wood and beautifully balanced. In this section a very great feature are the Gooseberries and Currants that take the form of cordons, gridirons, toasting forks, cups, and others, and bear with remarkable profusion, as frequenters of the Drill Hall know from the specimens that have been there shown. The collection of Crabs is complete, and includes several new ones raised by Mr. Seden, and of which one named *John Seden* has secured the award of merit of the Royal Horticultural Society. It resulted from a cross between *Crab Transcendent* and *Apple King* of the Pippins, and the fruits (fig. 55) are small and handsome. The colour is rich yellow with a suffusion of crimson on the side next the sun. The long slender stalk is set in a shallow even cavity, while the large open eye is practically on the surface of the fruit. It is a dainty, delicious, dessert Crab, yellow fleshed, sweet, crisp, juicy, and refreshing; would make a charming dish, while basketfuls would be something for children to rejoice over and scramble for. The tree from which the specimens shown at the Drill Hall were gathered was from a pip sown five years back.

ORCHIDS.

Mentioning Mr. Seden's name in relation to the Crab reminds of the necessity of a glance at the Orchid department, whence come so many of

the choicest hybrids. Not a great number of flowers were seen, but several plants of *Lælio-Cattleya Nysa* were producing lovely flowers, while *L.-C. Dominiana langleyensis* (fig. 56) was superb. This bi-generic hybrid resulted from a cross between *Cattleya Dowiana* and *Lælia purpurata*, and was accorded a first-class certificate at the Drill Hall on 11th inst. The narrow sepals are deep blush, and the broad undulating petals rich rosy purple. The superb lip is an intensely dark crimson, with a light rose-coloured fimbriated margin. The side lobes are crimson, with a suffusion of royal purple. The whole of the Orchids are looking



FIG. 56.—*LÆLIO-CATTLEYA DOMINIANA LANGLEYENSIS*.

wonderfully well, and are evidently given the treatment they appreciate and thrive in. There are not hundreds, but thousands, from the tiniest seedling to the specimen plant in a very large pot.—VISITOR.

— EXHIBITION QUALITY IN GRAPES.—Your correspondent, "Observer," refers to a remark I made in a paragraph in a previous issue under the above heading, and seems to assume that I wrote without authority. The observation to which he takes exception was made at the Crystal Palace by one of our leading gardeners, and a first-class Grape grower. I am fully aware that in some places the gardener dishes up his own dessert, but chiefly then on special occasions. As a rule it is done by one of the chief house servants, and thus it is that large bunches of Grapes are manipulated to enable them to be put on the table in two or three dishes rather than in one only. But this is a trifling matter, and beside the question raised. "Observer" leads his paragraph as this one is headed, but makes not the least reference to it. That really is the matter to be discussed. I hold strongly that ripeness, colour, freshness, and especially finish, allied to good size of berry and evenness, are more desirable show points, and evidence higher culture than do mere big bunches that have defects.—A. D.



WEATHER IN LONDON.—A considerable quantity of rain has again fallen in the last seven days, and despite the rapid fall of the leaf, vegetation looks fresher. From Sunday to Wednesday mid-day, except for a heavy shower on Monday night, it was dry, and at intervals the sun shone with great brilliancy.

— **BIRMINGHAM GARDENERS' ASSOCIATION.**—At a recent meeting of the above Society, Mr. R. A. Rolfe of the Kew Herbarium gave a most interesting and instructive essay on the "Structure and Fertilisation of Orchids," Mr. W. B. Latham occupying the chair. Mr. Rolfe illustrated his subject with the blooms of several Orchids, whilst for a more explicit demonstration of the structural parts of an Orchid flower, use was made of the flower of *Pancreatium fragrans*, reference also being made to the evolution of the family of Orchids, and their diverse fertilising agencies. The lecture was listened to with marked attention.

— **JUDGING AT THE EDINBURGH SHOW.**—We have received letters on the subject of judging the dessert tables at the above show so conflicting in character that their publication could not possibly lead to any useful result, and certainly to no alteration in the awards. We are informed that if a protest had been lodged in proper form at the show it would have had careful consideration. That a mistake in procedure was made appears clear in not recording points for duplicate dishes—an oversight which could not have occurred had the judges been furnished with pointing sheets similar to those supplied at Shrewsbury. Experience teaches useful lessons, and greater care must be exercised another year.

— **CARYOPTERIS MASTACANTHUS.**—For upwards of half a century this pretty flowering shrub has been in cultivation in British gardens, but it has never appeared to become very widely distributed. A glance at the plant when in flower is sufficient to prove that the merits it possesses are by no means insignificant, for whether grown outside, or as a pot plant for the greenhouse, it is equally attractive, and flowering as it does in September and October, it is doubly acceptable. It is a native of China and Japan, and has ovate, deeply serrated leaves, green on the upper surface, and white on the under. The inflorescences are produced from every leaf base on the upper foot or foot and a half of the current season's growths. The flowers are small, blue, and the largest segment of the corolla deeply fringed. They are produced forty or more together in upright flattened panicles, as many as thirty inflorescences being borne on some shoots. It is advisable to prune the shoots back to a few eyes in spring, longer growths and more flowers resulting. Except in favoured localities the protection afforded by a wall will be found necessary. Several plants are in flower at Kew, and a plant 4 feet in diameter may be seen in the gardens at Gunnersbury House. A figure of it may be seen in the "Botanical Magazine," t. 6799.—W. D.

— **THE CELERY FLY.**—Complaints as to the mischief done by the larva of the Celery fly are numerous. We owe these largely to the long-continued warmth and dryness of the soil, for even up to the time of writing (the middle of October) there has been in southern districts very little rain, and the soil is damp only on the surface. Without doubt there have been recurrent attacks of the fly this season. The life of the larva is short, although it does so much mischief when in existence. Had we had the usual autumn rains, no doubt thousands of the maggots would have been killed by moisture; but because the soil remained so dry the period of hibernation was shortened, and other flies deposited other eggs, and thus the breeding maggots increased *ad infinitum*. Except that the maggots afford such evidence of their presence in the leaves, and can be picked off or be destroyed, it is little that can otherwise be done to check them once they get into the leaves. The chief preventive is found in making the leaves of the plants offensive to the fly, and that can be done by making up a solution of softsoap and quassia chips, with which is mixed a very little petroleum, and after spraying the plants with it, then lightly dusting with soot. Of course such a dressing gives the plants an objectionable appearance, but if for the time proves effective in keeping off the fly it is a good thing. Too often Celery growers fail to realise the harm that is done by not pinching out the maggot-eaten leaves as soon as the brown spots appear, and destroying them by burning or scalding. It is useless to take this precaution after the maggot has passed into the ground and become a chrysalis.—A. D.

— **THE HESSLE GARDENERS' SOCIETY.**—In spite of a wet night there was a good attendance of the members of the above Society on Tuesday, October 18th, 1898, to hear Mr. Garnett of Wakefield read a paper entitled, "Unsolved Problems in Chrysanthemum Culture." Afterwards a capital discussion was held, in which Mr. Daniels of Dewsbury and other members joined. Several questions were asked and ably answered by the essayist.—J. T. B.

— **PINCHING FIG SHOOTS.**—In dealing with the summer pruning of Figs on page 268 Mr. Abbey mentions, among other methods, the pinching system as a good way of insuring the maturity of the wood and crops of fruit. I am inclined to think that, under the majority of circumstances, it is by far the best, and I have known trees, both indoors and out, brought from a condition of useless luxuriance into a good state of bearing by systematic pinching. The methods of summer pinching are so clearly defined by your correspondent that there is no need to repeat them, but the advantages are numerous. In the first place facilities are given for light and air to circulate through the branches; secondly, short, close-jointed shoots are obtained, and the flow of sap, instead of being spread over a long length of shoot, is concentrated in a small compass, and instead of a few fruits showing at the tips of the long branches, the short, well-matured shoots, bear a Fig at the axil of almost every leaf.—G.

— **UNDERGROUND ONIONS.**—Though the underground Potato or Onion is quite unknown in many private gardens, and grown in comparatively few, it finds favour among cottage gardeners, particularly in districts where the spring-sown crop is liable to succumb to attacks of the maggot. In some districts in the south underground Onions form the crop in many cottage gardens, and the qualities of this kind are well spoken of. It is often urged that they will not keep, but when planted early, and properly harvested, they keep up the Onion supply in many a household through the winter, and sufficient bulbs are reserved for planting in the spring. Like Shallots, the underground Onions rapidly multiply, and requiring less care in cultivation, as well as being more certain than those raised from seed, they are looked on favourably by many cottage gardeners with whom quantity is the chief consideration.—H. H.

— **POTATO UP TO DATE.**—In the last issue of the *Journal of Horticulture* I noticed that Mr. W. Pen states that the above variety is an excellent disease resister. This, unfortunately, is not my experience with the Potato in question. During the month of May (rather late, undoubtedly) I had occasion to plant about 1200 sets of this Potato, each set weighed from 1½ to 2 ozs. each. The soil was a light sandy loam with a gravelly subsoil, and was not enriched by adding any kind of manure. The sets were planted 18 inches apart in rows 30 inches asunder. The yield, so far as quantity, was everything to be desired, there being a good crop of useable sized tubers, but which, unfortunately, suffered severely with the disease compared with The Bruce, The Garton, Reading Hero, and Magnum Bonum varieties grown in the same garden, planted at the same time, cultivated in the same way, and grown from sets about the same time. It is unquestionably a nice looking Potato, and has already found much favour in the Garden Isle; but in this garden, which lays rather low and is somewhat enclosed, it was one of the first out of ten varieties grown to take the disease.—S. HEATON.

— **THE COCOANUT AS A VEGETABLE FOOD.**—In its life-supporting qualities the cocoanut is quite equal to the best of other vegetable products that have been ranked above it, and although these nutritive qualities are admitted, the amount of nutrition derived is much greater than is generally supposed. As an example, we may refer to the account that has been published of a vessel which left San Francisco with 400 passengers for Sydney. Running short of stores they were obliged to put in at a port where a large quantity of cocoanuts was obtained. The remainder of the passage was attended with heavy weather, and the vessel became water-logged, only reaching Sydney after a perilous voyage of eighty days. Owing to the extreme length of the voyage, their provisions ran out, and men, women, and children were reduced to an exclusive diet of cocoanut, and owing to the scarcity of these, the quantity apportioned was in the proportion of one cocoanut to each adult. Notwithstanding this diet, wholly unrelieved by any change, not a life was lost, not a single case of illness occurred, all the passengers landing in a healthy and well nourished condition. This is speaking well for the trade on shredded cocoanut, which, with the improvement in manufacturing the last few years, has almost entirely replaced the fresh cocoanut. This is because of its keeping qualities, and when prepared in a careful manner, it is much healthier, and certainly more economical, for it will not turn rancid.—("Indian Gardening.")

— **APPLE ROYAL JUBILEE.**—This acquisition to the list of useful Apples seems to be substantiating the good things spoken about it when it was sent out. I have recently seen trees of the variety in gardens and plantations that were growing in a creditable manner, and though only small were carrying handsome specimens of fruit. Royal Jubilee is a fine handsome Apple, and is said to be a better keeper than many others of the same type. In Kent it assumes a rich yellow tint when ripe, and is sound and heavy. These are qualities credited to make it a good market variety, and growers who have tried it are impressed in its favour. This season is not noted for heavy Apple crops generally, and the one under notice appears to have cropped as well as most others.—H.

— **ORCHARD HOUSE AT BASING PARK.**—Whilst opinions differ materially as to the value of unheated houses for fruit culture, there can be no doubt but that the fine lean-to orchard house at this place, the residence of W. Nicholson, Esq., is a great success. It is just 300 feet long, and some 12 feet wide. The entire back wall is planted with Peaches, Apricots, Nectarines, and Plums. In front is a low, half-circular trellis covered throughout with trees of these fruits, whilst at short intervals along the front and at the back of the trellis there are run up semi-cordons of Pears and Plums. Really the house produces annually an enormous quantity of fruit at comparatively trifling cost, and fully exemplifies the exceeding value in fruit culture of a glass covering. Such a house would greatly help to make gardeners generally independent of outside weather.—A. D.

— **STENOCARPUS CUNNINGHAMI.**—A specimen of this Australian Protead is at the present time flowering in the winter garden at Kew. It was discovered in 1828 by Mr. A. Cunningham, and records of its flowering were chronicled in 1847, among other places in the Botanical Gardens at Birmingham and Edinburgh. Since that time mention has seldom been made of its flowering. It is an interesting plant of decidedly ornamental appearance. The leaves are pinnatifid, dark green, glossy and leathery, often 1 foot in length and 7 or 8 inches across. The flowers are produced in umbels, fifteen or twenty flowers composing each umbel; they are scarlet in colour, and about 1½ inch long. At Kew it has not flowered for at least twenty years, which makes it all the more acceptable. Plants grown in small pots are very useful as decorative plants.

— **ECREMOCARPUS SCABER.**—Few outdoor climbing plants have a longer flowering period than this old favourite, and for variety of purposes and ease of culture it has few equals. It is a herbaceous perennial, but can be used as an annual with almost equal success, its quick-growing nature making it particularly adaptable for covering walls, bushes, trellises, or other things in a short space of time. By sowing seeds in February plants 2 to 3 feet in height can be had for planting out in May, and from that time until a sharp frost comes in autumn it is covered with racemes 4 to 6 inches long of scarlet and yellow flowers, each flower 1 inch in length. By putting a layer of ashes or dry leaves over the base of the stem it can be kept through ordinary winters uninjured; but, as it seeds with great freedom, it is almost as well to raise plants annually. If once the plant is obtained it is an easy matter to keep it.—D. K.

— **SOME NEWER POTATOES.**—Messrs. Dobbie & Co., Rothesay, very kindly sent me, late in the spring, half a dozen tubers of a new Scotch Potato, Crofter, which I was enabled to grow under very imperfect conditions; but at least I was enabled to see that it is a fine cropper, the tubers flattish round, white, and of excellent quality. It must have a better opportunity next year. Grown under more favourable conditions, without doubt the best new Potato has been Challenge. This Mr. W. Sydenham, of Birmingham, kindly sent me for trial. It was with me just as it was at Chiswick, the finest cropper, and producing the greatest bulk of handsome even sized table tubers of any grown. This variety should be in great demand during the winter. Its nearest compeer was Syon House Prolific, also a flattish round; that too was excellent. Devonian, kindly sent by Mr. Owen Thomas from Frogmore, gave a capital crop of medium-sized good table tubers of semi-long or kidney shape. These are, when cooked, of the finest quality. Ivo, as grown at Chiswick, sent by Major Curtois, also a medium white kidney, was a capital crop, and of superior quality. As this variety came from the Canaries, I obtained some Tenerife kidneys from a shop in the spring and planted them beside Ivo, but because growth was so late, I could not say whether it was the same or not. The tubers differ little. Still a better test will be furnished next year. Webber's Pride of Tonbridge, certificated at Chiswick two or three years since, a handsome white kidney, gave a fine crop, and a very even sample. So also did Webber's White Beauty, but that is older. Of others, Prime Minister, Chancellor, Conference, Satisfaction, and Windsor Castle were good. Not a single diseased tuber has been lifted.—A. KINGSTON.

— **RECORDS OF THE BOTANICAL SURVEY OF INDIA.**—No. 9 of this publication consists of a report on the botany of the Chitral Relief Expedition, by Mr. J. F. Duthie, Director of the Botanic Department of Northern India. The plants were collected by General Gatacre, C.B., Colonel Davidson, Lieutenant-Colonel Hamilton, and Surgeon-Lieutenant Harriess. Nearly a thousand species are enumerated, belonging to 459 genera and 93 natural orders. The list has a special value, inasmuch as the altitudes are carefully recorded. It is gratifying to find so many officers of the Army taking an active interest in botany. No. 10 is devoted to an interesting account of a botanical tour in Chamba and Kangra, by Mr. G. A. Gammie, supplemented by a list of the plants observed.—("Kew Bulletin.")

— **SHIRLEY GARDENERS' ASSOCIATION.**—At a meeting on the 17th inst., in the Parish Room, Shirley, Southampton, Mr. B. Ladhams, F.R.H.S., presided over a fair attendance of members. Mr. I. Miles, The Gardens, Portswood Park, Southampton, opened a discussion on the "Best Apples for the District," which is chiefly shallow loam with a gravelly subsoil. The list given by Mr. Miles was a comprehensive one, and he was asked to state the best twelve kitchen and dessert to suit a small garden, and at last the list was reduced to the best three of each to suit a cottager. The discussion was further continued as to canker, which is very prevalent, some varieties of Apples being much more subject to it than others, Ribston Pippin amongst the number. A hearty vote of thanks was accorded to Mr. Miles at the close of the discussion, also to the exhibitors, who placed a fine display of fruit on the tables.

— **ONIONS AT KENDAL.**—Judging from Mr. Lewthwaite's account, on page 271, the big Onion craze has reached a fair height in the land of the lakes. His notes were interesting, inasmuch as big Onions are now attracting the attention of most gardeners, and one correspondent has gone so far as to coin a new word in their honour. The account of the Kendal Show, however, would have been more interesting had your correspondent gone a little further, and given us the weight of the winning bulbs. We have some adepts at Onion growing in the South who are inclined to feel proud when they stage half a dozen specimens scaling 12 lbs. in the aggregate—all ripe, and warranted to keep. Comparisons may be odious, but, all the same, we should like to know the weight of the champion Kendal Onions, if only for satisfaction's sake. I gather from your correspondent's report that Cranston's Excelsior was true to its name in excelling other varieties, but down in the south we usually pin our faith on Ailsa Craig, and at the majority of shows I have visited this summer it was on bulbs of that variety that the judges put the first prize card. It seems like taking a long step to talk of an Onion Society, with a council, journal, and all the rest of it, and I am content to suggest a combat of the bulbs, not personal, but on the exhibition board, entitled North v. South. So great is the popularity of the big Onion becoming that the North v. South Onion match would soon compare favourably in interest with the famous games of cricket reported under that heading.—A SOUTHERN GROWER.

— **JUDGING BY WEIGHT.**—There is a grave omission in the R.H.S. judging rules. No reference is made to the weights and scales as judges. Perhaps the drafting committee thought that reference to butchers' boys' functions hardly came within their scope, but that does not seem to be universal belief, as in a very recent competition not the brains and knowledge of the judges, but the scales, had to decide which of the exhibits should win the prizes. I hope the gentlemen who in this case officiated refused to discharge such vulgar functions, and left to some attendant the duty thus placed upon them. To me it is incomprehensible that any capable man should ever stoop to discharge such an office as presiding over weights and scales. Work that may be worthy of a greengrocer or costermonger is not at all worthy of horticultural judges. What value is the knowledge and experience, acquired over perhaps a long life, of the properties and merits of various exhibits, if they are to be determined by scale tests? Then, too, if Onions, why not Potatoes, or Carrots, or Beets, or Parsnips, or Cabbages, or indeed anything else? We do not dream in our judgments, where the censors, all regarded as capable intelligent beings, of making awards to products by weight. I hope there is no flower show committee in existence that would think of asking intelligent judges to undertake such function. If men cannot determine by sight and sense of feeling which are the best of the products before them, they are unfit to discharge their duties. But such men do not exist. Unfortunately there seem to be those all the same who put them into the category of greengrocers or butchers' boys.—A. D. [Would it not be equally reasonable where weight judging is stipulated in schedules, that the judges themselves be chosen by weight too, and thus carry out the principle to its logical conclusion?]

AMPTHILL HOUSE, BEDS.

ABOUT a mile from the Ampthill station of the Midland Railway is the pretty village of Ampthill, at the end of which is noticeable a neat, compact lodge. The carriage drive from this entrance is well planted on each side with ornamental trees and shrubs backed up by large timber trees. A wing of considerable dimensions has recently been added to the mansion. The terrace is a large one, overlooking a fine expanse of country, beautifully undulated and well timbered. The scene is imposing, as many fine views are obtained from different points. Various suitable climbers planted against the mansion are doing well. The bedding on the terrace was gay at the time of my visit, and the display highly pleasing.

Recently a long border alongside a grass walk has been planted with a choice collection of ornamental trees, shrubs, and Conifers, of which the following were doing well amongst the many:—

CONIFERS AT AMPTHILL HOUSE.

Abies Douglassi	Pinus cembra
" Engelmanni	" excelsa
" Parryana glauca	Retinospora filifera
" Nordmanniana	" plumosa
" canadensis	" plumosa aurea
" magnifica	" squarrosa
Cedrus atlantica	Thuia Lobbi
" atlantica glauca	" Vervænana
" Deodara	" gigantea aurea
" Libani	" borealis
Cryptomeria elegans	Thuiopsis dolabrata
Cupressus argentea	" dolabrata variegata
" Lawsoniana	Juniperus virginica
" L. aureo-variegata	Wellingtonia gigantea
" L. erecta viridis	Golden Elder
" L. lutea	Prunus pissardi
" L. nana	Golden Irish Yew
Pinus austriaca	Acer negundo variegata

PLANT HOUSES.

Several houses are devoted to plant growing. There is a good house of Orchids, and healthier Cattleyas, Lælias, Dendrobies, and other kinds it would be difficult to find. A span-roof house is filled with beautifully grown and well coloured Crotons. There is a collection of Dracænas of the very best sorts, the plants ranging from a foot to 3 feet in height, and are clothed with richly coloured foliage to the pots. On the roof of this house, trained the whole length, is one of the finest and healthiest Stephanotis floribunda I have ever seen, carrying hundreds of enormous trusses of its pure waxy white flowers. Not an insect was to be seen. This house was a picture, for great taste is displayed in the arrangement.

Other houses are devoted to Palms and Ferns. The demand for these at times is very great for decorative work. All the leading kinds of the former are to be found in quantity, from a foot to 15 feet high, pictures of health. Of Ferns the same can be said as far as health is concerned. Grandly grown plants in from thumbs to 18-inch pots are here in perfection. There are other houses devoted to flowering plants, such as Ixoras, Allamandas, Eucharises, Paneratioms, and others. The greenhouse department is also well represented. Noticeable in one of the houses was a tastefully arranged display of Hydrangea paniculata grandiflora, Celosia pyramidalis, Lilium Harrisii, and Cockseombs, in great numbers, which are found invaluable during the late summer months.

FRUIT HOUSES.

A span-roof vinery in two compartments rather surprised me by the splendid crops of different varieties growing happily together. They were excellent in quality, fine in bunch, grand in berry, and colouring superbly. The first compartment included Madresfield Court, Black Hamburgh, Muscat of Alexandria, Buckland Sweetwater, and Foster's Seedling, every rod carrying a fine even crop of grand fruit. No. 2 contains Muscat of Alexandria, Appley Towers, Foster's Seedling, Golden Queen, Mrs. Pearson, Madresfield Court, Lady Downe's, Alicante, and Gros Colman. I never remember seeing a better collection of high-class Grapes, and we may expect to see some of them at future exhibitions. There are other vineries, and all well and usefully occupied to meet the requirements of the establishment.

Peaches and Nectarines occupy other houses, late and early varieties being admirably grown, and give a long supply of these delicious fruits.

OUTSIDE FRUIT.

The collection is an extensive and varied one. The walls are covered with grand trees. Plums, Peaches, Apricots, Cherries, and Pears are in abundance, and yield excellent crops. Apples and Pears, in pyramids and bushes, are also grown extensively, fine fruit of the leading kinds being produced in great quantity. Bush fruits are also extensively grown. All the leading new Strawberries, Raspberries, Gooseberries, Currants are well represented, the trees of the latter literally breaking down with the heavy crops of fine fruit.

VEGETABLES.

The vegetable department is an important feature of this establishment. The early forcing of vegetables is carried out to a great extent—there are two or three kitchen gardens in various parts of the estate, and it is from these that Mr. Empson produces the grand specimens for which he is so frequently honoured at shows. One of the latest displays was the remarkable collections of Onions arranged at a meeting of the Royal Horticultural Society, and represented in part in the photograph, fig. 57. The pile on the right is Carter's Holborn, the centre Record. To enumerate all that was seen in the gardens would occupy too much space. Suffice to say that everything undertaken is grown well. Mr. Empson tries most of the novelties in vegetables, retaining the more and weeding

out the less useful. Many visitors to the Temple Show at the end of May will remember his wonderful exhibit of early vegetables, probably one of the finest displays ever set up by a private gardener. It was the admiration of all interested, the Peas in pots being a notable feature.

Mr. W. Empson, the able and enthusiastic gardener, is a young man in the prime of life and full of energy. To him is entrusted the working of the whole estate. After viewing the grounds and houses he said, "Now you must see my pets," leading me to see a grand pedigree herd of cattle—perhaps the finest in the Midlands—Guernseys and Jerseys, many of them prizewinners at the leading shows. The "Home Farm" adjoining the gardens is a model, such as your farming authority would rejoice to see, and where he would find a hearty welcome. Stepping inside Mr. Empson's garden office, I found the walls covered with prize cards, the majority firsts, and dozens of them. This is sufficient to prove the abilities of a good all-round man, for on examination I found they are for plants, fruits, and vegetables, not forgetting the Guernsey and Jersey favourites. It will be seen that Mrs. Wingfield is a great patron of gardening and important country pursuits.—A. OUTRAM.

REVIEW OF THE FRUIT SEASON, 1898.

BY MR. G. BUNYARD, V.M.H. READ AT THE HORTICULTURAL CLUB.

FOLLOWING an abnormally dry winter, with a February of unusual sunshine and warmth, fruit crops looked promising, and the necessary work on the land was well forward. The blossoming was of unusual beauty and profusion, but a cold spell of weather, with a very low night temperature, set in in April, and continued with slight intermissions nearly into July, so that the abundant set of fruit failed to swell, and consequently dropped wholesale, while a swarm of aphides, with mould, on the foliage promised to annihilate such fruit as had set on the healthiest and most vigorous trees. However, to take the "ground crops" first.

STRAWBERRIES.—Although these were as late as June 25th before they commenced to ripen in Kent, the crop was a very heavy one, and the absence of showers and storms caused the berries to mature in grand condition, and very few were spoilt on the land. Prices were good. The late April frosts caused a few of the earliest blooming sorts to fall in our district; but although a few outside varieties were not satisfactory, the main sorts were very fine, Royal Sovereign being top for size and flavour combined, while Dr. Hogg kept its premier place, closely followed by the Countess, which was superb.

GOOSEBERRIES.—An abnormal crop, the berries being very large, and afforded perhaps the best crop of any fruit. Very fine punnets of yellow and white sorts were in the town markets, and they lasted a longer time than usual. Unfortunately they were some fourteen days later than other seasons, so that a large quantity were unpicked, as the Bank Holiday came before they were all sold, and the loss of four days was fatal (no picking on Saturday, and pickers on pleasure till Wednesday).

RED CURRANTS were good and sold freely. Black Currants did not make such prices as were expected, as there were large importations from the Continent. Still they paid well, and bid fair to do so for many years, as the mite has played havoc with so many plantations. While on this subject, a cure has yet to be found, as the minute larvæ are so concealed in the buds that no spray or wash can reach them. Picking off is a partial remedy, and the system of cutting back every other year has been tried with very poor results in Kent, the strong new growths being infested worse than ever. Clever growers think planting wider apart with severe thinning out of old wood, combined with rich cultivation, may help. We know that bushes 12 feet apart in our nursery have been so far free from mite, and have borne every season. Ripened wood may check this pest. We fail to find any one kind resist the mite more than another, and in many cases so-called remedies have been worse than the disease. White Currants are finding more favour as a market crop. I saw some fine ones in the London shops this season.

RASPBERRIES suffered severely from the extreme heat and drought, and the growers only found consolation in very high prices; cases of £50 a ton are known. I fear the plant has suffered severely from the red spider since the crop has been gathered, as the fields present a reddish brown appearance, that is not promising for the crop of 1899.

CHERRIES have been the shortest yield for some years, and those fortunate growers who had a crop have done well. Record prices were made here and there, but the average was low, and I fear the trees, being surface feeders, will suffer for some time, except where the owners of grass orchards have kept the sheep fed well, as nothing does orchards of Cherries more good than keeping the grass fed down close by fattening sheep.

PEARS.—The crop was very light in orchards; even several of the common early kinds failed. I think this was in a great measure due to the fact that the winter drought did not leave these deep-rooted trees sufficient moisture to assure the swelling of the fruit. In gardens there are grand crops on walls in many places, and also on pyramids, but these, of course, secure proper attention in watering, thinning the fruit, and securing good clean foliage. The 1898 season again emphasises the fact the gardeners must grow a greater variety than seems at first necessary, as without some of the second-rate sorts this year we should be without Pears at all. Generally second-class kinds are good in a dry year. I allude to such as Clapp's Favourite, Dr. Jules Guyot, Doyenné Boussoch, Beurré d'Amanlis, Princess, Colmar d'Été, and Duchesse d'Angoulême, which are this year so serviceable. We cannot depend entirely on Doyenné de Comice, Marie Louise, and others of the highest quality. One grand Pear is again to the fore—Emile d'Heyst. It is curious that a Pear that I knew fifty years back is yet so little known.

Being recently at a large orchard, I noticed it was the only tree bearing a crop at the time of my visit. Durondeau is again most reliable. The value of careful root-pruning has been apparent in many gardens; this year a wall of cordons attended to in 1896 has borne the largest crop in our district. Such care always pays.

PLUMS.—The flowering time was grand, but, alas! cold winds and very cold nights almost destroyed the crop in many parts, though as the season advanced the yield was much larger than was looked for at one time. Good prices have ruled, and the crop has been gathered in fine condition, the dry season preventing loss by splitting. It is a remarkable thing that there is sure to be a crop of Plums somewhere, and no doubt, taking a series of years, that Plums would come out the best paying orchard crop. Rivers' Prolific has been short in Kent, although one place is reported to have grown 1500 bushels. The comparative failure of this sort is no doubt due to its blooming so early—in many years an advantage.

APPLES.—This is our most important crop, as it lasts from August till May. I can here report a general shortage, and although left for notice till the last (by chance) this crop furnishes the most important lessons of the year to my mind. On all sides we see grass orchards bare of Apples while young and thriving plantations are giving good returns and most excellent samples. The fact is that the old trees are weakened by years of drought and neglect; many are this year so hard hit, full of red spider, bare of foliage and new growth, and exhibit such a general

building up the woody formation of the tree, and is also of use for the grazing sheep and a marvellous stimulant for old orchard trees, cheap in bulk and handy in use. Evidence is not wanting to prove that liberality in manure, energy in greasing for winter moth, spraying for aphides and codlin moth, pay on all sides, and the fact is specially brought home in a dry season like this, following as it did on the two light rainfalls of 1896 and 1897.

Year by year the prejudice against Apple trees on the Paradise stock is breaking down. Let me summarise its advantages. (1) The trees are dwarfs, and require no ladders. (2) They bear the second year, and the dropped fruit is not injured. (3) The fruit is more handsome and clear than from orchard trees, (4) and therefore make top prices. (5) The trees can be planted 12 feet apart. (6) They are within reach for checking aphids and other parasites, for pruning and other attentions. (7) They bear freely when the orchard trees do not. A word as to prejudice. No doubt many of the earlier raised trees on the Paradise were budded on an inferior kind. Every good nurseryman has now discarded this bad stock, and trees on the best Paradise are as healthy as trees on the Crab, and can be relied on to last and produce as long as that old style of tree.

PEACHES AND NECTARINES.—These have suffered severely from curl in early spring, but as soon as summer weather returned they recovered, and the best crop for years has rewarded those cultivators who syringed their trees freely and kept down the red spider, and also



FIG. 57.—ONIONS FROM AMPHILL HOUSE GARDENS.

want of vigour, that it may take many years of care before they come again to a profitable return. And why is this so? Because the growers forget that the grass roots penetrate so deeply that they absorb all the nutriment, and the Apple trees get none. When horses and lean cattle are put in the orchard the evil is but emphasised—a case of burning the candle at both ends.

Contrast these exhausted orchards and pale, thin foliage with the younger trees in plantations on cultivated land, and the difference is at once seen. We starve our old orchards and expect a return without outlay or trouble. When a crop is produced on these aged trees it is often so heavy that it takes the trees a year to recover. If, however, we were to feed pigs or fattening sheep in them, the nutriment resulting would enable the trees, by encouraging surface roots, to fruit every year, and thus pay bountifully for the outlay.

I have in my eye a plantation four years planted where the trees have been well manured, heavily pruned, and the land well nurtured and kept clear of weeds; and Apples have been so abundant and fine that they were thinned twice before the main crop was gathered, and the prices obtained for the fruit have been nearly twice those obtained for old orchard samples, while below them Gooseberries have been picked twice green and once as red-ripes; these with the Apples giving an enormous return per acre. The tenant uses bonemeal, kainit, and fish guano, and it was evident from the growth and the entire absence of weeds that this arrangement was a paying investment.

Therefore we must treat our grass orchards liberally by surface dressings of stable manure in winter, and also by mulchings and top-dressings of artificial manures. Especially do I recommend kainit on light soils. It contains a proportion of salt, which is beneficial alike in

gave water freely to the roots as required. The fruit was of large size and remarkable colour, and the quality superb. The Peaches and Nectarines grown in our orchard house were never finer in size or flavour. The superb fruit shown at the Crystal Palace in 1898 show will never be forgotten.

Colour on Fruit.—This season has confirmed us in our opinion that high colour in fruit is not caused by the sun's heat alone. Speaking generally, fruit was twenty days later than usual, and if evidence were wanted, the exhibition of Plums at the Crystal Palace afforded it conclusively, as never before have such a grand lot been set up there. It was also remarked that Pears and Apples were not so highly coloured as usual, and this I consider to be from the absence of those refreshing dews and showers we generally get in September, which, combined with wind and free air, appear to be essential to produce colour and finish. In other words, besides what trees take from the soil, they require favourable conditions in the atmosphere to complete their growth. The colour which our fruit took on after the shower of September 30th was pronounced in two days.

In preparing this paper at the request of our worthy Secretary, I do not pretend to exhaust the subject, but only to have introduced it for discussion by the members of the club, and I wish to state that I can only speak for my own district, where more than ever growers are giving attention to fruit, more even than Hops and corn, as being the most lucrative. But as the fruit crops drain upon the soil most freely, so it is necessary that the fertilisers should be applied liberally. A remarkable feature in the enormously extended area of land under fruit is that the prices keep up; and the day visibly draws nearer when the home producer will oust the foreigner from the market, excepting in Pears and those tropical fruits which our variable climate cannot produce.



SEMI-EARLY CHRYSANTHEMUMS.

FORMERLY we depended chiefly on the reflexed and Pompon varieties of Chrysanthemums for affording a display of bloom in continuance of the earliest varieties, but now there are several of the Japanese sections which can be had in bloom from the middle of October to the early part of November, this period comprising the time when semi-early varieties may be considered to be at their best. The following are semi-early:—

Eclairer is a good purple Japanese. Mrs. G. W. Palmer is bronze with a rosy shade. It is a sport from Mrs. C. H. Payne, and is, like that variety, of large size. The flowers are of good quality with broad florets. *Geo. Seward*, a deep orange bronze Japanese, has broad drooping florets. The plant is a strong grower, and the blooms are large. *Elthorne Beauty* possesses a colour not commonly met with, being a deep pink or rose, with silvery reverse, full deep blooms. Simplicity is an excellent white, clear in colour and the blooms above the average size. The petals incurve at the points.

Emily Silsbury is another white, not so large as the last-named, but a good variety for October flowering. *Mad. Gustave Henry* produces splendid large white flowers on plants of a specially dwarf and sturdy character, their height seldom exceeding 4 feet. All the above are Japanese.

In the incurved section *Perle Dauphinoise* is a splendid rich yellow, as is *Louise*, flesh pink. The latter is a Japanese incurved, a dwarf grower about 3 feet, frequently less. *Souvenir de Petite Amie* is one of the dwarfest and best white Japanese varieties for grouping and decoration. The flowers are very pure in colour. *Mons. Hoste*, a Japanese reflexed variety, has rosy white, slightly tinted yellow blooms, fine broad florets. *Barbara Forbes*, a Japanese incurved white, is a good October flowering variety, 4½ feet in height. *Ivory* is another white, dwarf and bushy, with fairly large flowers; Japanese. *Lady Selborne*, *Mlle. Lacroix*, and *Elaine* are all white Japanese varieties, which are still considered excellent for decoration and cutting, though they have been superseded for exhibition.

The best October yellow varieties are *Ryecroft Glory*, *October Yellow*, *Alice Bird*, and *Soleil d'Octobre*. They are dwarf and compact growing plants, and the flowers reflexed. Dark crimson varieties may be represented by such old but free-flowering sorts as *Roi des Précoces* and *William Holmes*. Few if any of the newer varieties can eclipse in richness of colour the splendid rosy purple blooms of *Alexandre Dufour*. The habit of the plant is dwarf, and flowers are produced freely. *Lyon*, a fine Pompon variety, is also of a rosy purple colour, but of lesser depth. The flowers are specially good and regular in shape. *Margot*, rosy chamois colour, is peculiarly interesting, from the fact that the blooms change their tint several times. The variety is Japanese, but has no special merit except usefulness and attractiveness in a small way.

Madame G. Bruant, rose and white Japanese with broad, flat, and drooping petals. This is a good semi-early variety, the flowers from early buds being very large and fine. *Werther*, a large purple Japanese, has solid lovely coloured blooms of good form. A most attractive golden yellow market variety, not large, but useful for cutting and decoration, is *Klondike*. It is very effective, and blooms freely in the middle of October in pots.

There are few of the real incurved section of Chrysanthemums which are naturally early, or at their best developed condition much before November. Among the earliest may be noted *Mons. R. Bahuant*, rose carmine, and *Baron Hirsch*, orange cinnamon. The following, too, are earlier than the majority in flowering:—*C. H. Curtis*, yellow; *D. B. Crane*, buff and red; *Mr. James Murray*, pink; *Jeanne d'Arc*, white and purple; *Rose Owen*, rose coloured; *Globe d'Or*, yellow and bronze.

The truest semi-early varieties are those which bloom quite naturally during October; but many of the large flowered Japanese varieties are induced to form early buds and produce good blooms earlier than November. Blooms are thus secured for special purposes, and to prolong a display over a longer period. This is chiefly effected by pinching out the points at the end of March, and giving good culture with an early move into flowering pots. The buds are secured in August, or very early in September in the case of some varieties. Under favourable conditions, which consist of having the plants standing in an open situation, insuring good healthy root action, regular watering, judicious feeding, top-dressing, prevention against insect attacks, and other little details known to the enthusiastic cultivator, much can be done in bringing the flowering to a successful issue.—S., *Gravesend*.

REMINDERS.

THE ventilation of the structures occupied by Chrysanthemums is a matter which should be well attended to. Constant ventilation is advisable, though less is necessary at night than during fine, warm, clear days. It is a safe plan to increase the amount of air admitted early in the morning, always provided the wind is not strong or fog prevails. Draughts should be avoided. When the atmosphere is heavy with fog, mist, or small rain, the Chrysanthemum structure is likely to become close and muggy, and under these conditions the spread of mildew or leaf rust is probable. A little fire heat, along with a reasonable circulation of air, is a considerable help at this time, as it promotes a buoyant, healthy atmosphere.

Well grown, healthy plants, are not often attacked with green fly, but if any should appear it will be wise to fumigate or vaporise, so as to destroy it. Earwigs are often found on the plants after housing, and when they lodge in the blooms soon disfigure the petals. Indications of their presence may be noted by scattered florets. Dead and withered foliage on the plants provides shelter for them, hence remove all such as frequently as possible, especially in a crowded collection, to prevent their depredations, as well as further deterioration of the foliage. A large collection will also derive benefit if the plants which are past their best are removed, either to another house or a less favourable position in the same structure. Immediately the flowers are useless take the plants outside and cut them down. Avoid cutting them down inside, or the spores of mildew and rust fungus, if any, may be disseminated in all directions on hitherto healthy plants.

The plants will vary in their requirements as regards water and stimulants. Clear water only ought to be given plants in full development. Those advancing may be assisted with clear, weak liquid manure, and others not so forward may have supplies a little stronger. Strong rooting plants require more attention than weaker growers.

Bright sunshine ought not to be allowed to fall directly on large developed blooms. They are liable to be scorched—or, at any rate, some of their freshness and beauty diminished. The incurved are more sensitive than the Japanese, and coloured blooms more so than white. Fully-developed flowers may be preserved for a considerable period if cut and placed in water in a cool, dark room. Retain plenty of stem, and cut off a portion each day.—E. D. S.

THE N.C.S. MEDALS.

Is there any standard by which the medals of the National Chrysanthemum Society are awarded at their exhibitions? At the one held on the 12th, 13th, and 14th inst., much surprise was expressed as to the allotment of the various medals. The gold medal was awarded to a trade grower for a nicely arranged bank of Chrysanthemum and foliage plants; two circular groups in this bank were formed entirely of foliage plants, and the remaining portion of the bank was also greatly assisted by a large number of the same class of plant. From what can be gathered, the Society does not insist that the plants shall be grown by the exhibitor, and they may be obtained from Covent Garden or elsewhere. Picking up a circular issued by this exhibitor, I note it is distinctly stated that his Chrysanthemums have won several gold medals. Would it not have been more correct to say that some at least of these medals were won by choice stove and greenhouse plants? The daily press in notices of the show in most cases only calls attention to this one exhibit, and we are informed that "Mr. Blank was awarded a special gold medal for his magnificent Chrysanthemums."

In the gallery a table of ordinary Asters or Michaelmas Daisies was honoured with a silver-gilt medal. A table of Dahlias had a similar award, but one of the most striking exhibits in the show—viz., a splendid collection of the same flowers, had no higher honour. The exhibit consisted of a large pyramid of handsome Cactus Dahlias surrounded with several smaller groups of Pompon and other forms. All were effectively arranged, though rather formal, still they were not so formal as the other table, which consisted mainly of a display of the lumpy Show Dahlias staged on the usual harsh green boards. Now there were twentytimes the number of blooms in the large group, they covered much more space than the first named, and made a more striking display, and yet both received the same honour.

Then, again, a long table was nicely arranged with Carnation blooms, and what were considered the finest Chrysanthemum blooms exhibited by any trade grower in the show. This exhibit was recognised less by the Society than were the collection of Asters or boards of Dahlias, for only a silver medal was awarded. Can it be thought after such examples as these the medals are awarded according to merit? If they are there was something radically wrong at the late show, for one collection of Dahlias was much superior to the others, and the Chrysanthemums and Carnations were a much more meritorious exhibit than the table of Asters, although the medal awarded would cause anyone to think they were not so.—FAIRPLAY.

[Not quite "anyone," for our correspondent would, no doubt, and justly, like to be regarded as someone, and he is clearly not in accord with the judges' estimates of merit.]

THE N.C.S. AND THE ROYAL AQUARIUM.

I AM not behind the scenes, and cannot tell of the various strings pulled to cause the N.C.S., even in opposition to the recommendations of its own specially appointed Committee, to agree to stick to its old unsuitable place of exhibition; but there may be something in what was said some time ago by a member, that it was so convenient to have the shows near the Drill Hall. No doubt the prestige of the R.H.S. is a very important factor, and members of both societies do not like to lose association with the quietude and congenial company of the Drill Hall, for to be an active Fellow of the Royal Horticultural Society is something to be proud of. I appreciated immensely the "honour" shown in accepting the hospitality of the general manager of the Crystal Palace, yet resolved to refuse his liberal offers, even whilst eating his food. I sympathise with those members of the Sites Committee who were worthily engaged but voted down. They will hardly be so fooled again.—NO PARTISAN.

THE N.C.S.—SITES COMMITTEE'S REPORT.

WE have received from the Secretary of the N.C.S. the terms of reference supplied to the special committee that was appointed to consider them, also to visit and report on various buildings as suitable or otherwise for the Society's shows. We can find space for little more than the Committee's report.

Having found the Agricultural Hall, Islington; the Exhibition Buildings, Earl's Court; Olympia, Kensington; the Queen's Hall, Langham Place; the Imperial Institute, South Kensington; and the Northampton Institute, Clerkenwell, either unsuitable or unobtainable, attention appears to have been concentrated on the Crystal Palace and the Royal Aquarium.

The sub-Committee, after waiting on the Directors of both Companies and ascertaining the terms offered, prepared the following reports of their examinations, deliberations, and recommendation.

CRYSTAL PALACE, SYDENHAM. —A deputation from your sub-Committee waited on Mr. H. Gillman, the General Manager, at the Crystal Palace, with a view of ascertaining upon what terms the Shows of the Society might be held at Sydenham. Mr. Gillman made an offer of the following terms for 1899:—

1, For an October Show, £75; for a November Show, £175; for a December Show, £50 = £300.

2, To set apart the grand central naves for the Shows, provide the necessary tabling, arrange a room for the meetings of the Floral and other Committees.

3, Supply the necessary admission tickets for members and for the representatives of affiliated Societies.

4, Supply admission tickets at half-price. Would favour the provision of a 1s. 6d. ticket, which would give transit from London to the Palace and back, with admission to the building, so that the sum may be divided in three equal shares between the Crystal Palace, the railway, and the National Chrysanthemum Society.

5, Will permit floor space to be let for miscellaneous exhibits; will provide plants to decorate the show tables if required; will do the whole of the bill-posting at the expense of the Crystal Palace.

6, Will do all the advertising, with the exception of the gardening papers, as at present.

7, Will endeavour to arrange for a supply of refreshments in the building on reasonable terms; and

8, Will also take steps to arrange for a cheaper and quicker train service to and from the Palace.

9, No Dahlia exhibition to be held by the National Chrysanthemum Society, as the National Dahlia Society holds its exhibition annually at the Crystal Palace.

In reply to a request as to whether the sum named for the November show could be augmented, Mr. Gillman said he thought that the arrangement should be tried for one year, and then be reconsidered.

Your sub-Committee hold that the greater ground-floor space afforded at the Crystal Palace, the better light by day, added to the greater freedom from noise, which is objectionable to some at the Royal Aquarium, constitute advantages which go a considerable way in the direction of meeting the objections to the present place in which the exhibitions of the Society are held, which have found expression in various ways.

Your sub-Committee having given due consideration to the foregoing particulars, have decided by a majority to make the following recommendation to the Executive Committee:—

That the terms offered by the Crystal Palace Company for holding three exhibitions in 1899 be accepted, subject to details being found satisfactory.

For the foregoing resolution there voted six—namely, P. Waterer (Chairman), T. Bevan, D. B. Crane, J. W. Moorman, J. T. Simpson, and A. Taylor.

Against the resolution one—namely, R. Ballantine.

The above report was presented to a special meeting of the Executive Committee on October 17th, and on the motion for its adoption, there voted for the motion eleven, against it twenty-six. The motion for its adoption was therefore declared lost.

Thus the matter is settled by a majority of nearly 2½ to 1 of the Executive, overturning a vote of 6 to 1 of the Special Committee—

a distinct novelty. The Executive is invested with full power to fix the place of exhibition. It appears from another portion of the report that the Aquarium Company give £30 extra this year, making £330, but decline to consider the matter of adding the annual grant unless the N.C.S. "guarantee to carry out four exhibitions annually for the space of three years." If the coquetry should result in marriage, it may be expected that the champagne will fly again.

AMATEUR VERSUS TRADER.

WE are informed that a case was tried in the Hastings County Court on Monday last, relative to the Committee of the N.C.S. refusing to pay prize money to Mr. Strudwick, who was a successful exhibitor in the amateurs' classes at the Aquarium Show last November. If we remember rightly, a protest was entered at the time against the eligibility of the exhibitor, but Mr. R. Dean, the referee, decided against it. If it is correct that Mr. Strudwick publishes a catalogue of plants for sale, we are not surprised that the N.C.S. won the Hastings case with costs.

N.C.S.—FLORAL COMMITTEE.

A MEETING of the Floral Committee was held on Monday last at the Royal Aquarium, Mr. Harman Payne occupying the chair. There was an excellent display of novelties, the principal exhibits coming from Mr. W. Wells, Mr. H. J. Jones, Mr. R. Owen, Mr. W. Seward, Mr. W. J. Godfrey, Mr. Spink, and Mr. H. Weeks. The following first-class certificates were awarded:—

Mrs. Wingfield.—A very pretty decorative Japanese flower, something resembling the Christines in form; colour deep bright pink. Staged by Mr. W. J. Empson.

Ada Owen.—A very nice looking, regularly built incurved, close and compact; florets broad and stiff; the blooms are of good size; colour pure white. From Mr. R. Owen.

Lady Phillips.—An incurving Japanese, big, bold, and solid; florets very broad; colour pale mauve with a reverse of silvery pink. Also from Mr. R. Owen.

Mrs. George Hill.—A pretty little decorative Japanese with white drooping florets, centre shaded yellow; very free and useful. Exhibited by Mr. H. J. Jones.

President Bevan.—Japanese incurved; a big massive flower of exceptional build, florets grooved and pointed; colour deep golden ye low shaded bronze. From Mr. W. Wells.

Major Matthew.—Incurved rather narrow florets, but closely incurving; a globular, well-built, medium-sized flower; rich rosy pink. Shown by Mr. W. J. Godfrey.

Mrs. W. Seward.—A large finely built Japanese, and, like many of Mr. Seward's seedlings, very rich in colouring. It is deep in build; the florets are flat and of good substance, and very regularly arranged; the colour is deep rosy cerise with a reverse of gold, and the florets are tipped and edged gold. Mr. W. Seward was the exhibitor.

Market White.—Decorative Japanese; a pretty little flower, colour pure white, tinted sulphur in the centre. One of Mr. W. Wells' exhibits.

Jules Mary.—Another decorative Japanese; florets narrow, stiff, and neatly disposed; colour deep bright crimson, reverse golden; very effective. Also shown by Mr. W. Wells.

Mrs. W. Cursham.—This is another of the big battalion. The florets are broad and deeply grooved, twisted and intermingling, and curly at the tips; the ground colour is white, shaded pale lilac mauve. A novelty sent by Mr. H. Weeks.

Specially noteworthy were the following:—Miss Mary Leschelles, a pure white sport of great merit, from Reine d'Angleterre; Miss Godsmah, a golden bronze Japanese, which the Committee wish to see again, as they also did Thomas Singleton; Mr. M. Russell, a fine golden chestnut coloured incurved, was also asked to be sent up again; Mme. Convat de Terrail, pale flesh-coloured Japanese, and Le Grand Dragon, a big yellow Japanese, were the objects of a similar request; Autumn Glory, a pink coloured Japanese with a shiny reverse, was commended; Ellen Shrimpton, very bright and pretty deep rosy cerise, also a Japanese, the Committee wished to see again; and Mytchett Beauty, a deep golden orange decorative variety of the Japanese type.

SPECIALITIES IN PRIZE SCHEDULES.

IN noting the leading points in prize schedules this season, I fail to find any diminution in the number or value of the prizes generally throughout the whole range of exhibitions, which extends from Exmouth on October 27th, to Dundee, just one month later. This fact speaks well for the interest taken in these autumn exhibitions, and is a distinct proof of the hold they have upon the public who support the various societies so liberally.

The National Chrysanthemum Society's November exhibition will no doubt create the greatest interest, as many exhibitors regard this show as the most important of all. Assuming this to be the case, a few notes on the composition of the prize schedule will first merit

attention. The meeting is to be held in the Royal Aquarium on November 8th, 9th, and 10th. As usual, cut blooms are the best provided for in the prize list, and no less than fifty classes are set apart in this section. In the plant department only seven classes are to be found, and with the exception of the group class all the plants are to be trained. The ordinary decorative section receive no encouragement whatever.

Amongst the cut bloom classes, that known as the "trophy" class receives, as usual, the pride of place in the schedule, which is really a competition between societies by the aid of its members. The conditions are for forty-eight blooms distinct, half to be Japanese, and the remainder incurved. A money grant of £10 accompanies the trophy, to be divided amongst the contributors of the blooms. Second and third prizes, of £6 and £1, are also offered. Perhaps the greatest interest is centred in the two classes in which the "Holmes" Memorial cups are offered, in addition to the £10, in each case to accompany the cup as first prize. The esteemed President, Sir Edwin Saunders, liberally contributes this sum in both classes. £7, £4, £2 are also given by the Society as the remaining prizes. In one case thirty-six distinct incurved blooms are required, and in the other forty-eight Japanese varieties is the stipulation. These two classes are sufficient to test the strength of any competitor. The "Turner" Memorial challenge cup is again offered for thirty-six Japanese blooms, in three distinct colours of white, yellow, and crimson, 6 inches of clear stem to be seen above the boards, and Chrysanthemum foliage to accompany each flower. This should prove an interesting class, especially as the conditions stipulate that competitors in the previous two classes are not allowed to stage for this prize. Mr. H. J. Jones, Lewisham, offers £9 in three prizes for two blooms each of Madame Carnot, Mrs. W. Mease, and G. J. Warren. Miscellaneous sections, like Anemone, reflexed, Pompous, and single-flowered varieties all receive due encouragement.

Sixteen classes are provided for amateurs, in two divisions, and prizes ranging from 30s. downwards are offered. A "maiden" class is very properly inserted, and should receive much favour from would-be exhibitors, who are often deterred from competing in the ordinary classes. Ample provision is made for what is known as "table decorations," vases and epergnes of Chrysanthemums, and which always attract much attention. The group of Chrysanthemums and foliage plants, for which the handsome sum of £10 is offered as first prize, is sure to receive its share of attention. Taken altogether, the prospects of a representative show seems especially well assured.

On the same day the great Midland Show is held in Bingley Hall, Birmingham. For many years this Society has held one of the best autumn exhibitions to be found, not only for its cut bloom display, but also for specimen plants, as well as groups and miscellaneous plants, Primulas especially. Fruit and vegetables are staged in high order of merit. For twenty-four incurved blooms prizes of £10, £7 10s., £5, £2 10s., £1 10s., and £1 are given, with similar sums for the same number of Japanese blooms. Many other classes are provided for cut blooms, so arranged that every grower has a reasonable chance of success. A special class is that for twelve Japanese blooms, distinct, on long stems, arranged with any kind of foliage, and small Ferns or Palms in pots. A table 3½ feet by 3 feet will be provided for each exhibitor. The vases or vessels in which the blooms are stood are to contain water, and not to exceed 15 inches in height. The object in view is to show how large blooms may be employed for decoration. For a group of Chrysanthemums, Ferns, and foliage plants £10 is offered as first prize, with £7 for second.

In the west of England Bristol has long been noted for its grand autumnal exhibitions. The date this year is November 16th and 17th. Cut blooms are an important feature, so keen generally is the competition. The principal class is that for thirty-six Japanese, in twenty-four varieties—always an easy class to fill. A challenge vase, value twelve guineas, is given along with a cash prize of £5 for the premier award. Classes for baskets and vases filled with Chrysanthemums and other flowers, as well as those with autumn leaves, are scheduled, while amateurs receive much encouragement. Plymouth has become quite a leading society owing to the generous prizes offered, and the keen competition obtained in consequence. November 3rd is the date chosen for the exhibition this year; £10 is offered for forty-eight Japanese blooms, with £7 for the second prize. Substantial prizes are also offered in the smaller classes. Much encouragement is given to local exhibitors, especially in the counties of Devon and Cornwall. A special class, with £21 as prizes, is for a group of Chrysanthemums and foliage plants. In the home counties, Reading has long held a thoroughly representative meeting, this time it is to be November 16th. Cut blooms as well as winter flowering plants receive the most encouragement here.

Ascot, Sunninghill, and Sunningdale Horticultural Society holds annual autumn show in the Grand Stand at Ascot, November 3rd. For years this Society could boast of having the best groups of Chrysanthemums alone of any show. Latterly, though, there has been a falling off in this respect, growers apparently devoting more attention

to cut blooms, for which liberal prizes are offered. Huddersfield, in the Town Hall, on the 11th November, opens its show. There are only two open classes for cut blooms, twenty-four Japanese and twenty-four incurved. £5 is given in each case as the premier award. The Kingston and Surbiton Society holds its twenty-second exhibition as usual in the Drill Hall, November 1st and 2nd, when the famous challenge vase will be competed for. This class is a thorough test of skill, as the conditions require the whole of the forty-eight blooms to be distinct, half Japanese and half incurved. Good prizes are also offered in other classes. The Borough of Croydon, too, holds its eleventh autumn exhibition on the same date. Here a challenge cup, value 25 guineas, is offered for thirty-six Japanese blooms in not less than twenty-four varieties. Amateurs and single-handed gardeners are well provided for; the classes for both cut blooms and plants are numerous and valuable. The Chrysanthemum Society of Maidenhead has chosen the 3rd and 4th for the first autumn show. A schedule containing over forty classes is issued. The principal class in the cut bloom section is one for two dozen Japanese, in not less than eighteen varieties, and twelve incurved specimens, distinct. A silver medal accompanies the first prize.—E. MOLYNEUX.

CHRYSANTHEMUM LEAF RUST.

ALONG with your correspondent "R. M." I was much interested in reading the remarks which appeared in the Journal of the 13th inst. respecting the scientific and practical aspect of the dreaded disease. Your able correspondent Mr. G. Abbey aroused much interest last year amongst "Mum" growers with his valuable information, accompanied by the still more valuable illustrations, which incited every intelligent gardener to keep a keen and constant eye on the plants under his care. Whatever the life-history of the disease may be, there is one thing certain, and that is, it is considerably more prevalent this year than last, particularly in the Isle of Wight. I have already received from nearly every part of the Garden Isle an intimation of its presence, and in many cases this information has been accompanied by diseased foliage. In many instances it is only one or two plants that have the "rust," whilst in others large numbers of plants are suffering with the disease. At a class of students which I am preparing for the R.H.S. examination we carefully submitted the disease to microscopical investigation, and there found the production of teleutospores. I am afraid little can be done in destroying the disease, but much may be done in preventing its spreading by the adoption of early spraying with the various solutions already referred to in your Journal.—S. HEATON.

THE Conference recently held by the N.C.S. will undoubtedly lead to much good, and I should have liked to have taken part in the discussion, but was afraid I could hardly squeeze my say into the five minutes wisely limited to each speaker.

I was particularly struck with the large attendance of growers, especially as only a few admit that they are troubled with "rust on Mums." The various writers inform us "that they hear that the rust is rather prevalent;" but oh, dear, no! they have not noticed it in *their* collection. Still, it was surprising to note what a large number of growers at the meeting seemed to be deeply interested in the matter.

During the past few weeks I have seen many collections, and in no instance have I failed in finding the disease. Its course seems peculiar and erratic. One collection of about 300 plants was last year quite free from the rust, although the stock they were procured from was infected. This season new blood was introduced in the way of fresh varieties, and these are now clean, although obtained from a stock which was badly attacked last season; but, strange to say, a few of those which were clean last year have recently become infested with the fungus. In many instances the varieties which were badly attacked last year are almost clean this, whilst those which suffered little then are severely attacked this season. It was rather to be regretted that trade rivalry sprang up at the discussion.

Mr. Wells honestly stated that his collection was affected, but he isolated the attacked plants, and further said all trade collections were more or less contaminated, which was nothing but the truth, in spite of the fact that some of the trade wished us to believe their stocks were clean.

During the season plants were sent out by all the most important trade growers which were affected by the fungus—at least, I received them as such; and, further, I supplied hundreds of plants and cuttings which were more or less diseased to the members of the trade who attended the meeting, and when one trade grower alleges that the only varieties which he has diseased come from another grower he is treating the latter unfairly, for if the disease is only in these plants it simply proves that it makes little difference whether the plants are procured from an infected stock or otherwise, for this grower obtained plants from various other growers where stocks were "rusty." All the principal trade growers obtain large quantities of stock from each other every season.

Mr. Wells says he can destroy the spores. Many growers will incline to the opinion of Mr. Massee that he cannot without little less than destroying the foliage. It is possible to treat the powdery matter so that it falls off, and also to prevent its spreading by rendering the foliage impregnable to contamination.

As to the disease dying out, I am afraid we cannot look forward with much hope to this. We have Hollyhock and Potato diseases with us more or less every season, and so it will be with the fungus in Chrysanthemums. Perhaps, however, we may raise varieties that will resist the disease.

As to preventives. There does not seem to be any difficulty in getting the stock clean during the summer, for stocks badly affected during the previous autumn and winter become apparently quite clean in the growing season, but towards the autumn, when the foliage is losing its vigour, the brown spots appear, and soon affect the whole plant.

When once the disease has a good footing all attempts to stay its spread seem to be useless, and the only chance to keep it at bay is to commence with the syringing of the stools with some of the various preventives prescribed, and also dipping the cuttings before insertion, and the plants at every potting. Instead of syringing with clear or soot water every day, use a fungus destroyer once or twice a week, and every few days make a diligent search for the disease, and should it appear burn every bit of affected foliage, taking great care to gather it carefully, putting it into a covered box or tin in taking it to the fire, so that none can float in the air.

As to remedies. Mr. Wells gives one which he has proved to be good. The Bordeaux mixture of sulphate of copper and lime is very simple and effective as a preventive, but care must be taken to use the purest sulphate of copper. The rust in Carnations is very similar to the one affecting Chrysanthemums, and it is giving much trouble to American growers. The most effective remedy yet propounded is a decoction of arsenic. An ounce of this, dissolved in a little alcohol, and mixed with 100 gallons of water, is the recipe, but it requires great care in using. That it is very efficacious I have proved.—W. J. GODFREY, *Exmouth*.

[That high culture and feeding render the plants favourable to the inroads of the fungus, all the infested examples that we have received from various parts of the country go to prove. It was the same with the Hollyhock disease, through which the old single species grown in poor soil in cottage gardens alone passed, in hundreds of instances unharmed. Prevention is the golden rule to follow in combating fungoid pests. If the Chrysanthemum invader can be kept at bay, as well as Mr. Robert Fenn masters the fungi which attack Potatoes, Tomatoes, Vines, Roses, and everything else in his garden, it is conquerable. We have seen all those of his plants and crops reeking with disease, and subsequently found them absolutely free. He mastered the enemy by systematic dustings of sulphate of copper and lime—always before any signs of fungus were visible, and continuously, preventing, as he is thoroughly convinced, the germination of the spores. He has no difficulty in dusting the under side of the leaves by the cloud or powder which he provides, through his bellows distributor. Has this dusting been regularly applied to Chrysanthemums? Mr. Fenn likes using the powder much better than what he calls "nasty sloppy mixtures."]

CHRYSANTHEMUMS IN THE NORTH.

CROW NEST PARK, DEWSBURY.

MR. DANIELS, the energetic Superintendent of the above-named public park, has given every year since he took charge one of the best displays of high-class Chrysanthemum culture to be found anywhere in the North. About 600 plants for specimen blooms are cultivated for this year's display, giving evidence of the highest cultural skill, and that forethought and knowledge of the constitutional peculiarities necessary to success, and which can only be acquired by close study and experience.

Neither as to position nor climatically can Crow Nest Park be described as an ideal one for the cultivation of the Chrysanthemum; the older forest trees give ample evidence of its wind-swept position, whilst for smoking chimneys Batley, Dewsbury, Ravensthorpe, and the Spen Valley complete the circle, and probably more long chimneys can be counted from Dewsbury Park than any other position in the West Riding. Yet by care and attention to details, and especially in watering, the Chrysanthemums are excellent.

Varieties which are here successfully grown, it may be taken for granted, will succeed in most other places giving equal attention and care in details. Mr. Daniels is a firm believer in the superiority of the bloom from the second crown bud wherever and whenever it can be secured at the right time, but as many fine varieties cannot be carried over to that bud the collection is divided into sections—1, those varieties which give good quality from the first crown after the natural break; 2, those varieties which are best carried forward to the second crown bud after the natural break; 3, those varieties that require special treatment, which includes varieties that need stopping so that the first, second, or third crown bud can be secured.

The following varieties promising well were found in section 1.—Edith Tabor, Mrs. Dr. Ward, D. B. Crane, Lady Byron, Duke of York, Pride of Exmouth, Duke of Wellington, C. H. Curti, Lady Ridgway, Ella Curtis, Madame Ed. Roger, R. Dean, N.C.S. Jubilee, Mrs. Maling Grant, Modesto, Occana, Julie Scaramanga, Elthorne Beauty, M. Demay Taillandier, M. Gruyer, Miss V. Foster, Australie, In Memoriam, C. Shrimpton, W. Tunnington, Mrs. J. Murray, Madame Lawrence Zede, and Olive Oclea, with nearly all the Queen family.

Section 2 comprises Wm. Tricker, Mrs. W. S. Trafford, Van den Hede, Bouquet des Dames, Miss Rita Schroeter, J. Seward, W. Firkins, Baron Hirsch, Modesto, P. Alfred, Mr. C. Harman Payne, Niveus, Duchess of Wellington, W. Seward, Hairy Wonder, Eva Knowles, Globe d'Or, Phœbus, Mdle. Lucie Faure, Chenon de Léché, Mrs. G. W. Palmer, Lady Kennaway, and Mutual Friend.

In the third section are Ed. Molyneux, stopped on the 4th of April, and carried on to second crown, forming fine promising buds; Lady Hanham, Chas. Davis, and Vivian Morel were also very promising carried over to the third crown from the natural break; Mons. R. Bahuant, stopped on the 20th of March and carried over to the second crown, very fine; Emily Silsbury, stopped 1st of April, and Mrs. G. Carpenter, stopped 27th of April, first bud secured from natural break. T. C. Bourne, stopped 20th of March, and first crown bud secured, were all promising well. Chas. Blick and Austin Cannell were too late on first crown from natural break. Duchess of Fife, stopped 20th of March on first crown, was too early.

Four hundred bush plants are grown for decorative purposes, and are very fine indeed. The following varieties were noted for their free-blooming and distinct character:—Japanese: Commandant Blussett, Ryecroft Glory, Mdle. Lacroix, Elaine, Isidore Feral, Mdle. Leroy, Margot, Source d'Or, Yellow Source d'Or, Annie Clibran, Chas. Davis, Mutual Friend, Vivian Morel, Madame de Sevin, Mrs. C. Shea, and La Charneuse. Pompons: Snowdrop, Lizzie Holmes, Sœur Melanie, Mary Rainford, President, Alice Stevens, White Cedo Nulli, Golden Madame Marthe, W. Westlake, Rose Trevena, and Mdle. Elsie Dordan, with—Singles: Freedom, Ivory, Miss Annie Holden, Mrs. F. Coward, Mrs. J. Ferguson, Rose Pink, and Emily Wells.—T. G. W.

CHRYSANTHEMUM SHOWS.

As is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the coming season. Space, however, can only be found for mentioning those that have been advertised in our columns. We append the dates of such fixtures, with the names and addresses of the various secretaries.

- Oct. 27th and 28th.—EXMOUTH.—R. Pearce, Chippenham Lodge Gardens, Exmouth.
- Nov. 1st and 2nd.—CROYDON.—W. B. Beckett, 272, Portland Road, South Norwood.
- „ 1st and 2nd.—KINGSTON.—W. D. Elsam, Clarence Chambers, Kingston-on-Thames.
- „ 2nd and 3rd.—ASCOT.—Henry C. Needham, The Glen, Ascot.
- „ 2nd and 3rd.—WOLVERHAMPTON.—J. H. Wheeler, Glen Bank, Tettenhall, Wolverhampton.
- „ 3rd and 4th.—MAIDENHEAD.—J. W. Stone, Cookham Dean, Maidenhead.
- „ 4th and 5th.—BATTERSEA.—J. O. Langrish, 167, Elsley Road, Battersea, S.W.
- „ 7th.—ST. NEOTS.—Wm. Ratchelous, St. Neots.
- „ 8th, 9th, and 10th.—BIRMINGHAM.—J. Hughes, Harborne, Birmingham.
- „ 8th, 9th, and 10th.—ROYAL AQUARIUM (N.C.S.).—R. Dean, Ranelagh Road, Ealing.
- „ 9th and 10th.—HANLEY (Staffs).—J. and A. Kent, Hanley Park.
- „ 9th and 10th.—LIVERPOOL.—Dickson and Sadler, 7, Victoria Street, Liverpool.
- „ 9th and 10th.—CARDIFF.—H. Gillett, 66, Woodville Road, Cardiff.
- „ 9th and 10th.—BOURNEMOUTH.—J. Spong, Lindisfarne Gardens, Bournemouth.
- „ 10th.—WINDSOR.—Secretary, Chrysanthemum Society, Windsor.
- „ 11th and 12th.—ALTRINCHAM.—E. C. Moore, 22, Railway Street, Altrincham.
- „ 11th and 12th.—HUDDERSFIELD.—J. Bell, Marsh, Huddersfield.
- „ 11th and 12th.—ECCLES.—H. Huber, Hazeldene, Winton, Patricroft.
- „ 11th and 12th.—BRIGHTON.—Secretary, 1, Dyke Road Drive, Brighton.
- „ 11th and 12th.—BRADFORD.—R. Eichel, 16, Westcliffe Road, Shipley.
- „ 12th.—BIRKENHEAD.—W. Bassett, 23, Grove Road, Rock Ferry.
- „ 15th and 16th.—BELFAST.—J. MacBride, Victoria Square, Belfast.
- „ 15th and 16th.—LEEDS.—James Campbell, The Gardens, Methley Park, Leeds.
- „ 16th, 17th, and 18th.—YORK.—J. Lazenby, 13, Feasegate, York.
- „ 16th and 17th.—HULL.—Harland and Dixon, Hull.
- „ 16th and 17th.—RUGBY.—W. Bryant, Rugby.
- „ 16th, 17th, and 18th.—BRISTOL.—Edwin J. Cooper, Mervyn Road, Bishopston, Bristol.

A NOVELTY IN CHRYSANTHEMUM POSTERS.

I SEND for your inspection what seems to me to be one of the most artistic and effective posters ever designed for advertising a Chrysanthemum show. The event to which it refers is the forthcoming Grand International Exhibition and Congress at Lille, to be held on the 10th to the 15th November, in the Palais Rameau, a building eminently suitable for such a gathering. The poster, which measures more than 3 feet by 4, is printed in several colours, and represents a half-length figure of a Japanese girl in native costume, by whose side there is a huge vase of nine or ten large blooms of Chrysanthemums of various colours, several of which measure 8 or 9 inches across. In the left hand top corner is a view of the exhibition building. The catch word "Chrysanthèmes" is in large red letters across the top of the poster, while in the intervening spaces details of the show are given. The design is one that I understand could be adapted for the purpose of advertising an English show, and there is no doubt that wherever posted it would attract attention, a feature of primary importance in such a piece of work.—C. H. P.

[We have seen nothing of its kind, and for the purpose, to compare with this poster in England. It is a work of art, and ought to serve its purpose admirably. Miss Japan is quite charming among the "Mums."]

THE YOUNG GARDENERS' DOMAIN.

TUBEROSES FOR WINTER FLOWERING.

AS the cultivation of the Tuberose for winter flowering is a work that demands a little more care and attention than is usually given to bulbs, I have chosen the subject as one likely to be agreeable to many readers of the "Young Gardeners' Domain." When properly managed the Tuberose is a valuable addition to the conservatory or flowering house; when used however, for furnishing rooms its strong scent is oppressive to many people. The pure white waxy flowers are most useful for buttonholes, for which purpose they are much in demand. The time of potting should be regulated according to when they are needed to flower, and as the bulbs are very slow in starting into growth unless given a little encouragement, it will be found that they may be brought into flower at almost any season. To flower bulbs in November onwards they should be potted about the middle of January, putting two or three in 5 or 6-inch pots according to their size. Great care should be taken to provide efficient drainage. The soil best suited to them is rich loam and sand, with a little charcoal added. The bulbs must be potted rather firmly, and a little sand at their base is a good preventive against disease during the months of comparative inaction, which must necessarily take place to have the flowers at the time required. When the bulbs are potted they should be plunged up to the rims of the pots in ashes with a slight covering on the top, the object being to prevent the soil becoming dry through evaporation.

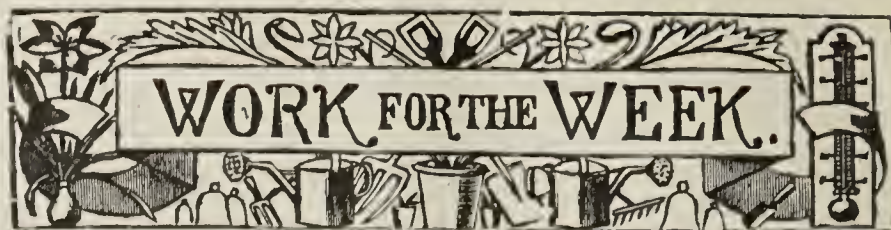
A few bulbs may be given a start in a brisk bottom heat about the month of May, and then hardened in a cold frame to stand during the summer. They have a great dislike to a cold damp atmosphere, and on this account are rather difficult to manage after September. If much water be given they will damp at the base of the flower stem, and if the atmosphere is not kept on the dry side the flowers are apt to decay. The chief points, I believe, for the supply of good bloom in the winter months are a fairly dry atmosphere and prudent watering.—S. S.

LOBELIA CARDINALIS.

DESPITE the exceedingly dry season that has just passed, and the very heavy storms we have had, and are now having, our beds and borders are looking very gay. The plants of *Lobelia cardinalis* are indeed a fine sight. They are in the herbaceous borders, not merely a plant here and there, but in plots where they form a mass of deep rich, scarlet flowers, which are extremely useful for filling tall vases when the flower spike has fully developed. With us they attain a height of about 3 feet. Grown in small pots, they are valuable for conservatory work.

Seeds may be sown in pans in early spring, and placed in a gentle heat, till germination takes place, when a cold frame will suffice. Great care should be taken to prevent slugs eating off the seedlings, therefore elevate the pans on a pot, and dust with lime occasionally. Judgment must be exercised in watering, so as not to displace the seedlings, which are very minute. When large enough to handle prick off in boxes, stand outside in a half-shady position, and afterwards transfer to borders, or winter them in a cold frame ready for planting out in the following spring.—PARVO.

—APPLE STEALING.—The case of Apple stealing reported at page 246 reminds me of a good story which I heard some time ago. An old Scotch minister "over the border" had a beautiful Apple tree in his garden, carrying a heavy crop of tempting fruit. It was observed, morning after morning, that the Apples were disappearing. The minister determined it possible to catch the thief, and secreting himself one night behind the Apple tree, he heard someone coming stealthily up the garden towards the place where he was concealed. The old minister moved quietly out, and meeting straight in the face a well-known parishioner, sternly inquired, "Where are ye gaun the night, Sammy?" "Sammy, turning right about, and making off as quickly as possible, hastily replied, "Back again, sir, if ye be there." No more Apples disappeared from that tree.—N. N.



FRUIT FORCING.

Peaches and Nectarines.—*Earliest Forced Trees.*—Ripe fruit being required at the end of April or in May, forcing must commence in accordance with the varieties in earliness or otherwise of ripening. Where the houses are planted with Hale's Early, Dr. Hogg, Crimson Galande, Stirling Castle, Royal George, and Dymond Peaches, Early Rivers, Lord Napier, and Stanwick Elruge Nectarines, forcing must commence about the middle of November by closing the house, so as to admit of a start being made in earnest early in December. But where the trees consist of Alexander or Waterloo, Early Beatrice and Early Louise Peaches, with Cardinal and Advance Nectarines, forcing, to have fruit ripe at the time named, need not commence in earnest until the new year. Give inside borders a proper supply of water, but do not make the soil sodden, and if the trees are weakly supply liquid manure. The house may be kept close, not allowing the temperature to exceed 50° without full ventilation, syringing the trees in the morning and early afternoon of fine days, admitting air abundantly whenever the weather is bright, employing fire heat only to exclude frost. Outside borders should be protected with about 4 inches thickness of leaves, with litter over them to prevent their displacement by wind.

Succession Houses.—The trees must not be hurried in casting their foliage by removing it forcibly, but admit air freely, especially at night, and maintain a dry atmosphere. When the leaves are all down unfasten the trees from the trellis, perform any pruning, cleanse the house thoroughly, paint woodwork and trellis if necessary, and dress the trees with an insecticide. Secure the trees to the trellis, leaving room in the ligatures for the branches to swell, as tight tying is one of the most prevalent causes of gumming. Remove the surface soil down to the roots, and supply fresh, rather stiff loam, with about a fifth of well-decayed manure, and apply a good handful of some approved fertiliser per square yard, pointing-in very lightly to prevent loss of ammonia. Give a thorough supply of water to inside borders of houses with fixed roof-lights, as dryness at the roots often causes the buds to fall.

Late Houses.—The fruit, except on a few of the latest trees, is now nearly all gathered, and the wood that has borne fruit and not required for extension should be cut out, as nothing is so prejudicial to late trees as too much wood. If the trees are young, and not ripening the wood well, form a trench about one-third the distance from the stem the trees cover in height of trellis and down to the drainage, so as to detach the roots, and after remaining open a fortnight fill the trench firmly, adding calcareous matter to the soil if deficient of that substance. This will check the tendency to late growth and induce wood ripening. The surface soil in the undisturbed portion should be removed down to the roots, supplying fresh material, or replacing the old soil after adding some calcareous matter, and give a good watering. The trees will push fresh roots and ripen the wood, but lifting must not be practised whilst the wood is soft and the leaves green and sappy, or the check will cause the wood to shrivel.

Pines.—As growth advances more or less in these plants during the winter months, they should be placed as near the glass as possible, but not in contact with it. This will enable them to make the most of every ray of light and sunshine. The sturdy plant throws up a well formed fruit in due season, but the drawn weakly plant, though larger in leaf, furnishes a smaller fruit on a lanky stem at an uncertain and irregular time. Therefore, to give plants the benefit of clean glass and proximity to it without touching is to grow with a view to fruit, and to keep them at a considerable distance from the glass and crowded, or beneath glass more or less opaque through dirt, with its concomitant duller and moister atmosphere, is to produce foliage instead of fruit.

Fresh Beds.—The beds of fermenting materials subside considerably through decomposition, and fresh made ones settle rapidly unless well trodden down. In either case prompt attention should be given to raising the plants so that they have the full benefit of the light, and in so doing take care not to chill or allow them to become overheated at the roots. New beds should be made where necessary. The best plan is to remove all the plants to a structure with the suitable temperature, clear out the old fermenting material, supply fresh, and not return the plants until the beds are in a proper condition. To take Pine plants from a warm house and keep them in a cool place chills them, and returning them from cooler quarters acts in the opposite direction, sometimes causing them to throw up fruit prematurely. Oak, Beech, and Spanish Chestnut leaves are much the best, as they are more durable than others, and the heat is consequently milder and lasts longer. Tan, of course, is best where it can be procured, and about half the quantity suffices, but leaves in many cases can be obtained for nothing but the labour.

Assorting the Plants.—It is a good practice to assort the plants according to their respective requirements before winter. Fruiting plants should be accorded the best places in order to swell off the fruits properly, particularly at this season when natural aid is at a minimum. These must have a night temperature of 65°, and 70° to 75° by artificial means

during the daytime. Succession plants only require a night temperature of 60° and 65° by day, with an advance from sun heat, but not without air, to 70° or 75°. Young plants will progress quite fast enough and satisfactorily in a temperature of 55° to 60° at night, and 60° to 65° in the daytime, above which ventilate freely, taking care to avoid chills. Fruiting plants require moisture at all times, therefore damp the paths and walls regularly when they become dry, and in a light house the plants will need sprinkling during bright weather only twice or thrice a week. Successional plants and others will require syringing occasionally, and damping the paths and walls where the heat is derived solely from hot-water pipes, but where fermenting beds are employed almost enough atmospheric moisture will be secured from that source without having recourse to the syringe.

THE BEE-KEEPER.

SPRING FLOWERS.

By a little timely forethought on the part of the bee-keeper, it is surprising what can be done in providing a succession of flowers from which the bees may obtain either pollen or honey. This is more apparent during the early spring than at any other time, and if we require spring flowers, preparation must be made some months previously. The present is a good time to take the matter in hand. Gardeners, as a rule, have opportunities not possessed by others, but all who have a garden, whether large or small, may do something towards the desired end.

It is not necessary or advisable to plant large plots of any one variety purposely for the bees, but to study what is pleasing to the eye, whether on a large or small scale. There are so many beautiful spring flowers to select from, that one has no difficulty in making a selection that will be pleasing to the bee-keeper, and of benefit to the bees. What is more beautiful than a bed of *Anemone fulgens* with its bright scarlet flowers? This is one of our earliest spring flowers. If not already done, no time should be lost in planting them where they are to remain, choosing an open border facing due south, where they are protected from cold winds. *Anemone fulgens* is not at all particular as regards soil. The one thing essential for success is an open piece of ground not shaded by other plants. If mixed with other plants, they rapidly deteriorate. Neither do they succeed well when planted in the turf.

The Winter Aconite is another charming flower appreciated by everyone on account of its earliness. It is bright yellow in colour, commencing to bloom, if the weather is favourable, early in January. It is better to place this plant in large masses, either in the open border or in the turf under the trees. In either position it will grow freely, and if the flowers are not gathered, will propagate itself from seed, and increase at a rapid rate. We have seen immense breadths of it growing under Beech trees in the Midlands, where they have probably been for generations. As so few plants will grow in such a position, the experiment is worth trying elsewhere. The Winter Aconite may also be used as an edging to a bed of *Anemone fulgens*, when the two colours produce a pleasing effect.

The different varieties of Scillas can be treated in the same manner. We prefer *Scilla sibirica*, as it has a showy appearance, and the bees work freely on it. It may be planted on the grass, or be used as an edging. But wherever planted, it has a much better appearance if several bulbs are put a few inches apart instead of in single rows. When planted on the grass, we find that this variety does not increase, although the bulbs will remain in the same spot for many years. If planted in peat or leaf soil, such as *Rhododendrons* will grow freely in, they will grow and increase at a rapid rate, both from offsets and seeds.

Tulips may also be freely planted in the borders and on the grass. For the latter, we prefer the scarlet *Duc Van Thol*, and if placed under the trees with Daffodils and similar bulbs, and the grass is allowed to remain uncut until the foliage of the bulbs has died down, they need not be disturbed from one year to the other. The reason so many people fail with bulbs planted in the turf, is because the tops are mown off with the grass before the bulbs are ripened. If they are planted under the trees, they may be left until this has taken place without having that untidy appearance they would have when growing in a conspicuous place on the open lawn.

We should not omit to mention the homely Snowdrop, the harbinger of spring, as whether grown in the mixed border, the rockery, or on the grass, is admired by all, and appreciated by the bees.—AN ENGLISH BEE-KEEPER.

THAT LECTURE BY MR. HEWITT.

I see your correspondent, "J. S. H.," page 309, has omitted to mention that the lecture and manipulations were at night time, in a room well lighted by ordinary gas jets, which is, I believe, the first

time such an exhibition has ever been given by anyone. The object of the lecture was to demonstrate that bees can be as easily manipulated at night time by artificial light as during the day. As regards taking wing, not one flew from the frame hive, which was in normal condition, with brood in all stages, and I do not think that more than eight or ten took wing from the swarm that was thrown on the floor, and these flew to the light, proving that when they do take wing, they make for the light instead of the operator. No one was stung, although people were all round, and no bee was left behind.—A HALLAMSHIRE BEE-KEEPER.

TO CORRESPONDENTS

All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

The Mussel Plum (J. F. W.).—This Plum is employed as a stock for supporting superior varieties, and no doubt you could obtain any desired number of young trees from a nursery in your county, where Plums are extensively raised, and grow the Mussels into bearing, if you think it worth while to do so.

Artificial Manure for Fruit Garden (T. A.).—The dressing you propose giving to 4000 trees of Apples, Pears, and Plums, with Gooseberries and Currants between, is a good one—namely, bone superphosphate 3 parts and kainit 2 parts, mixed, at the rate of 5 cwt. per statute acre, applying in November and hoeing in, following with a dressing of nitrate of soda. Taking the other ingredients into consideration, the proper amount of nitrate of soda to use is 2½ cwt. per acre, or 1¼ lb. per rod. This quantity should be applied at twice—the first dressing when the trees commence growing in the spring, the second when the fruit is a quarter grown. It is no use applying nitrate of soda late in the growing season, for, if dry, it does no good; and, if wet, does more harm than good by provoking wood growth. In the case of much enfeeblement through cropping, we prefer to use the mixture of bone superphosphate and kainit in the autumn, and supplement it in the spring with bone superphosphate 3 parts, and nitrate of potash 2 parts, using the same amount of the mixture as of nitrate of soda, or 2½ cwt. per acre, 1¼ lb. per rod. This for the first spring dressing, hoeing lightly, and following shortly afterwards with the nitrate of soda as before advised.

Exhibiting Rust-infested Chrysanthemums (J. D. M.).—Specimen bush and decorative plants infested by the rust fungus (*Uredo chrysanthemi*) would be at a great disadvantage in competition with perfectly clean healthy plants, as the yellowish spots on the leaves indicate sickness. Besides, so contagious is the disease through the plants containing pustules with ripe uredo spores dispersed more or less by every movement or specimen, it would not be judicious or even fair to exhibitors of healthy plants to place diseased ones in contiguity with them. Truly, no treatment will destroy the mycelium of the fungus within the tissues of the leaves without also killing these, but the spores are certainly destroyed by treatment with sulphide of potassium, half an ounce to a gallon of water, especially if applied with a sponge, so as to thoroughly reach and wet the spores in the pustules. You have simply acted too late. The attacks should be prevented by timely and repeated dressings of the sulphate of copper preparations, either in powder form or as Bordeaux mixture. Good results also attend spraying with soluble petroleum, 2 fluid ounces or a wineglassful to a gallon of water, applying in the evening at a temperature of 130° to 135°. This we have recently found

to act on the spores in the pustules before the epidermis has been broken through.

Rhododendrons on Chalk Soil (E. F. H.).—On a chalk soil we found these shrubs thrive well in a mixture of three parts half-decayed leaves and one part of turfy loam, cut about 2 inches thick, with a good quantity (about one-sixth of the compost) of white or other sharp sand added, chopping up, but not beating the material, and using as roughly as possible. This was placed on the natural soil, and raised beds thus formed. The depth was in accordance with the size of the plants, but about 6 inches was placed on and the balls stood on it, then the spaces between these raised with compost to 3 inches over them. A dressing of fresh soil was given annually. The plants matted the surface with roots, and succeeded admirably. Some old beds in which the plants had a very sickly appearance were top-dressed with rather fresh—that is, partially dried and broken—cow manure in the early spring about 2 inches thick, and they recovered wonderfully the first season. By continuing the treatment, and supplying liquid (cow) manure during the latter part of June and in July three or four times, at intervals of a week or ten days, the shrubs soon excelled those planted near by in prepared beds of peat, both in growth, colour of foliage, and size of flower trusses. In your case, if the chalk water comes from higher or adjoining ground and poisons the soil, the proposed plan of forming pits, bottomed and lined with clay, would answer. The idea was presumably taken from a sunken area, once a pond, converted into an American garden, and proved a great success, but the precaution was taken to provide rubble drains on the clay, and thus prevent water becoming stagnant. This, of course, implies other drains with proper fall and outlet, and that attended to we do not see why your proposed plan should not answer. Perhaps rubble drains around the beds would answer as well as the clay walls, as they would intercept the chalk water and carry it away.

Gastronema, Urceolina, and Boweia Culture (J. C. S.).—*Cyrtanthus* (*Gastronema*) *sanguinea* is a very handsome bulbous plant with large flowers, incurved, tubular, six-cleft, bright orange red within, yellowish externally, with six red streaks, scape terete, supporting a solitary flower. It flowers in August, requires to be grown in plenty of light in a greenhouse, and to be well supplied with water when in a growing state, but only just moist, or barely, when the growth is completed. A compost of strong friable loam, leaf mould, and sand suits the plant, growing in bulb-pots, narrow, deep, and well drained. *Urceolina pendula* (aurea) has very beautiful pendant flowers, yellow in the basal half, green above, margined with white. It bears several flowers in a scape, and in a greenhouse flowers in June before the leaves; but we have found it do best in a cool stove on shelves near the glass, and then flower at midwinter. As we had several dozens of plants the scapes were thrown up more or less from October to February. It does not require a large amount of pot room; twice or three times the diameter of the bulbs suffices in size of pot, or several bulbs may be grown in a pot, sinking them just even with the neck, or this above the soil. Good turfy loam, with a little leaf mould and sand, over good drainage, grows them well. The drying off system is not good, but keep drier when at rest than during growth, and be careful not to overwater, yet supply it liberally when required and before distressed for lack of it. *Boweia solubilis* is a greenhouse twining bulbous plant, more interesting than desirable for its flowers, which are few, remote, pedicellate, six-partite, green, segments reflexed. It does well in any light, well-drained soil, potting to the extent of about one-third of the bulb, or it may be just buried. A pot twice its diameter answers, growing in plenty of light and keeping dry when at rest to flower in October. True leaves are frequently not developed for years, but the green fleshy inflorescence, mostly abortive, performs their functions. The Orchid is *Lycaste lanipes*.

Treatment of Vallotas and Nerines (Doubtful).—*Vallotas* require a compost of good fibrous loam, leaf mould, and sand in equal parts. They are evergreen bulbous plants, and should not be dried off, but the soil always kept moist. The bulbs ought to be about half buried in the soil, and when potting is required it is best done either in June or July before flowering or just after blooming, when the plants have made fresh growth. They cannot have too light a position in the greenhouse nor have too much air, provided they are not subjected to sharp currents. Supply water freely during the season of growth—autumn to spring—and never allow the soil to become very dry, yet avoid making it sodden by needless watering. In full growth they are benefited by an occasional application of weak liquid manure. *Nerines*, unlike *Vallotas*, die quite down every year, hence periods for growing and resting must be annually allowed. Most of the species flower in late summer or early autumn, and before the appearance of the leaves. These follow close on the flowering, or the plants commence growing in late summer or autumn, and make their growth during the winter months and ripen it in the spring or early summer. When growing they should be kept moist, but not overwatered, and well up to the light in a greenhouse—that is, a structure from which frost is excluded, or 40° to 45°, with air freely at and over 50°. When the leaves give indications of dying down gradually withhold water, and altogether when they die, keeping the soil quite dry until signs of growth are again apparent. As the bulbs have been kept for some time quite dry they should be very gradually subjected to watering. They do not require repotting very frequently, this being best done before they commence growing or during June or July, but are better for a top-dressing of fresh soil when flowering or growing begins. Loam two parts, leaf mould one part, and one-sixth of sand, with a little charcoal, is a good compost to use, and adequate drainage must be provided. Several bulbs may be grown in a pot, allowing their diameter between them and covering them with soil to near the neck.

Selections of Fruit Trees (Amateur).—Peaches and Nectarines for early forcing:—Peaches: Hale's Early, A Bec, and Royal George. Nectarines: Early Rivers, Lord Napier, and Stanwick Elruge. For ripening under glass in August:—Peaches: Dymond, Noblesse, and Bellegarde. Nectarines: Rivers' Orange, Dryden, and Pineapple. Pears for bushes or pyramids in open garden:—Summer Doyenné (very small and early), Summer Beurré d'Arenberg, Triomphe de Vienne, Beurré Superfin, Fondante d'Automne, Louise Bonne de Jersey, Comte de Lamy, Emile d'Heyst, Doyenné du Comice, Passe Colmar, Beurré d'Anjou, and Josephine de Malines.

Destruction of Anacharis Alsinastrum (J. P. S.).—This American water plant, sometimes a troublesome weed in ponds, lakes, streams, and rivers in this country, grows with great vigour for a time and then gradually loses strength, becoming very feeble if not dying out. In the case of small ponds, cleaning out, after running off the water, answers in most cases, if every particle of the plant is removed. But when large ponds or streams are overrun by the weed geese or swans are the best remedy, especially the latter, as they eat it down, and in time make end of the weed. We placed three Spanish geese and five East Indian ducks on a lake, and they kept this and all other weeds completely in subjection, the area being about half an acre. Two swans did more execution on the weed than the geese and ducks, and for large ponds, lakes, streams, and rivers are most effective.

Lady Downe's Grapes not Colouring Well (A. B.).—As "the berries swell to a good size, and colour best near the bottom of the Vine," we should consider the border too deep (5 feet!), hence the Vine too vigorous, not ripening the wood well, and the colouring in consequence imperfect. No wonder the Vines "make very strong wood and foliage, the latter keeping very green till late in the year." Alicante always colours well, being a grosser feeder than Lady Downe's, which will have more heat near the bottom of the Vine from the hot-water pipes, and the bearing shoots will be less vigorous, with smaller bunches there than farther up the rod. This excessive vigour we consider is the cause of the Grapes not finishing well. As regards remedy, we should apply a top-dressing of some approved fertiliser, such as those advertised for Vines, and advised for promoting colour and finish in the Grapes. During the season of growth be sparing rather than otherwise in the use of water, not giving more than is absolutely necessary for the maintenance of the Vine in health, allowing a good spread of foliage beyond the show for fruit, and having all parts fully exposed to light, crowding the foliage being carefully avoided. Avoid liquid manure and everything tending to over-luxuriance, giving plenty of air in all the stages of growth, especially in the early part of the season and when the Grapes are colouring.

Tree Carnations (Cymru).—The best plants are grown well up to the glass in light span-roofed greenhouses, with plenty of air on all favourable occasions. For flowering in April a temperature of 40° to 45° by artificial means would suffice, keeping the soil rather dry instead of wet, so as to secure thoroughly solidified growth. This is the main point, admitting air freely at and above 45° to 50°. The plants will then flower if sufficiently strong about April or May, or if wanted earlier the temperature may range from 50° to 55°, but admitting a free circulation of air on all favourable occasions during the day. For plants to flower about the end of October some growers root the cuttings from July till the end of August in gentle heat, or layer the old plants, others selecting side shoot cuttings about the middle of January, insert them in bottom heat of 70° to 75°, and top heat of 60° to 65°, potting singly when rooted, and gradually harden so as to bear removal to a greenhouse, where they should remain till April; they may then be shifted and grown liberally. In June take off the tops, and about once a fortnight remove the points of any side shoots which appear likely to bloom up the middle of July or beginning of August. About the middle of September they may be taken indoors, giving plenty of air for a few days. In a temperature of 45° to 50° plenty of bloom may be obtained during the winter and spring months. If wanted earlier, or not coming forward fast enough, the temperature may be kept at 50° to 55°.

Scale on Peach Trees (A. B.).—You were rightly told that hot water, at a temperature of 140°, will kill brown scale (*Lecanium persica*), and you ask, Would this hurt the buds? We have not found it do so when used judiciously and the wood thoroughly mature, but when this is unripe there is danger of its injuring the green parts. The best cure we have yet found for brown scale on Peach trees was removing the roof-lights and exposing the trees to the frosts, rains, and snows of the winter months. This cannot always be done, therefore we have used hot water without harm to the trees, the wood being well ripened. Treatment with methylated spirit, applied with a brush just moistened therewith, answers well. Petroleum emulsions have also been used effectively. The generality of insecticides are excellent, and need only applying according to the instructions to destroy the pests. Caustic soda and commercial potash, a quarter pound each to 4 gallons of water, will also kill scale, applying carefully with a brush, or spraying on at a temperature of 130°, taking care not to apply an overdose. The Peach trees will require pruning back, to originate growths as desired for furnishing the space with branches, especially if long in the shoots and not well ripened to the points. They will also require disbudding—a very important point, so as to have the bearing shoots about 12 to 15 inches apart along the branches. If the shoots to form these are not very strong they may be left entire, and growths taken from them to form both extensions and bearing shoots.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of

regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (J. W. B.).—Variable fruits of Horned Pearmain. (J. M.).—1, Waltham Abbey Seedling; 2, Round Winter Nonesuch. (E. A. T.).—All the specimens were more or less faulty, while the numbering was confusing, some of the fruits having two different numbers. 1, resembles Cardinal; 2, Grenadier; 3, Northern Greening; 4, Flower of Kent; 5, unrecognised and worthless; 6, Beauty of Kent. (G. B.).—1, Belmont; 2, unknown. (W. K.).—The Pears were rotten and the numbers partially obliterated. The small fruit was Fondante d'Automne; 2, Beurré Clairgeau; large fruit quite rotten. (E. J. B.).—1, Sturmer Pippin; 2, Golden Noble; 3, Cobham, a fine form of Blenheim Pippin. (J. T.).—1, French Crab; 2, Dumelow's Seedling; 3, Waltham Abbey Seedling, poor; 4, if not a small malformed Cox's Pomona we do not know what it is, perhaps a local seedling; 5, Winter Quoining; 6, New Hawthornden. (W. T.).—1, Dumelow's Seedling, coloured; 2, Tower of Glamis; 3, Reinette Van Mons; 4, Queen Caroline, malformed; 5, Winter Greening; 6, small Beurré Diel. We are surprised you have thrust pins into the eye of the fruit and thus spoiled one of the most important characteristics. (J. B.).—Beurré Hardy. (Cedo Nulli).—1, Catillac, fine; 2, Beurré Bosc; 3, Marie Louise; 4, Bergamotte d'Automne; 5, Gansel's Bergamotte; 6, Cox's Orange Pippin. (R. M. D.).—1, Belmont; 2, Doyenné du Comice; 3, Beurré Hardy; 4, Pitmaston Duchess. It is seldom that specimens reaching us after Monday can be named in the current issue. Several packages have again been delayed through misdirection. Read rules above.

COVENT GARDEN MARKET.—OCT. 26TH.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve ...	1	3 to 3 6	Lemons, case ...	30	0 to 60 0
Cobs ...	40	0 50 0	St. Michael's Pines, each	2 6	5 0
Grapes, lb. ...	0 10	1 6			

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0 0	0 to 0 0	Mustard and Cress, punnet	0 2	0 to 4
Beans, $\frac{1}{2}$ sieve ...	0 0	0 0	Onions, bushel ...	3 6	4 0
Beet, Red, doz. ...	1 0	0 0	Parsley, doz. bnchs. ...	2 0	3 0
Carrots, bunch ...	0 3	0 4	Parsnips, doz. ...	1 0	0 0
Cauliflowers, doz. ...	2 0	3 0	Potatoes, cwt. ...	2 0	4 0
Celery, bundle ...	1 0	0 0	Salsafy, bundle ...	1 0	0 0
Coleworts, doz. bnchs. ...	2 0	4 0	Scorzoneria, bundle ...	1 6	0 0
Cucumbers ...	0 4	0 8	Seakale, basket ...	1 6	1 0
Endive, doz. ...	1 3	1 6	Shallots, lb. ...	0 3	0 0
Herbs, bunch ...	0 3	0 0	Spinach, pad ...	0 0	0 0
Leeks, bunch ...	0 2	0 0	Sprouts, $\frac{1}{2}$ sieve ...	1 6	1 9
Lettuce, doz. ...	1 3	0 0	Tomatoes, lb. ...	0 4	0 9
Mushrooms, lb. ...	0 6	8	Turnips, bunch ...	0 3	0 4

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6 0	to 36 0	Foliage plants, var., each	1 0	to 5 0
Aspidistra, doz. ...	18 0	36 0	Lilium Harrisii, doz. ...	12 0	18 0
Aspidistra, specimen ...	5 0	10 6	Lycopodiums, doz. ...	3 0	4 0
Dracæna, var., doz. ...	12 0	30 0	Marguerite Daisy, doz. ...	6 0	9 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	4 0	6 0
Erica various, doz. ...	9 0	24 0	Myrtles, doz. ...	6 0	9 0
Euonymus, var., doz. ...	6 0	18 0	Palms, in var., each ...	1 0	15 0
Evergreens, var., doz. ...	4 0	18 0	„ specimens ...	21 0	63 0
Ferns, var., d. z. ...	4 0	18 0	Pelargoniums, scarlet, doz. ...	4 0	6 0
„ small, 100 ...	4 0	8 0	„ „ ...	8 0	10 0
Ficus elastica, each ...	1 0	7 0			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch ...	2 0	to 3 0	Marguerites, doz. bnchs. ...	2 0	to 3 0
Bouvardias, bunch ...	0 6	0 9	Maidenhair Fern, doz. bnchs. ...	4 0	8 0
Carnations, 12 blooms ...	1 0	2 0	Mignonette, doz. bnchs. ...	1 6	3 0
Chrysanthemums, per bch. ...	0 6	1 0	Orchids, var., doz. blooms ...	1 6	9 0
Eucharis, doz. ...	3 0	4 0	Pelargoniums, doz. bnchs. ...	3 0	6 0
Gardenias, doz. ...	1 0	2 0	Roses (indoor), doz. ...	2 0	4 0
Geranium, scarlet, doz. bnchs. ...	0 6	0 9	„ Red, doz. ...	2 0	0 0
Gladioli, per bunch ...	1 0	1 6	„ Tea, white, doz. ...	2 0	3 0
Lapageria (white) ...	1 6	2 0	„ Yellow, doz. (Perles) ...	2 0	3 0
„ (red) ...	1 0	1 3	„ Safrano (English) doz. ...	1 0	2 0
Lilium lancifolium, white ...	2 0	2 6	„ Pink, doz. ...	2 0	4 0
„ „ pink ...	2 0	2 6	Smilax, bunch ...	1 6	2 0
„ longiflorum, 12 blooms ...	5 0	6 0	Viols ...	0 9	2 6
Lily of the Valley, 12 sprays ...	0 9	1 6			

TRADE CATALOGUES RECEIVED.

E. P. Dixon & Sons, Hull.—Fruit Trees and Roses.

F. C. Heinemann, Erfurt.—Novelties.

W. Paul & Son, Waltham Cross.—Fruit and other Trees and Shrubs.

G. W. Piper, Uckfield.—Roses.

W. Sydenham, Tamworth.—Pansies and Violas.



TRAINING FOR WOMEN WORKERS.

WHEN we wrote a short time ago on female agricultural workers we did just know of Lady Warwick's new scheme for training women in what we may call the gentler branches of agriculture. Since then we have received and read with interest a prospectus of the Warwick Hostel, which is being established in connection with Reading College, and we now would like to lay before our readers a short *résumé* of the scheme.

Personally we had in view quite a different class of women to those for whom Lady Warwick caters. We were considering the case of many widows and daughters of farmers, where there was either no son competent to take his father's place, or where sons (if any) resided too far away to do more than pay occasional visits.

It seems such a sorry thing to us to see a home broken up when the father dies, and we are perfectly sure that in many cases it is quite unnecessary; that is to say, where the widow is fairly active and the daughters of full age, with a real taste for country matters. If the heart is not in the work of course nothing can be done, but that holds good in all pursuits.

We have a theory though, and we have lived long enough to see that it is correct, and it is this, that farmers, like poets, must be born, not made. Any of our readers who are acquainted with the after career of farm pupils will say "Hear, hear," to this remark. An old, wise, successful, and celebrated farmer used to say that out of eighty farm pupils that had passed through his hands only two ever made anything out of farming. It might, of course, be his fault; but it seemed a strange thing that, after living some years with so able and practical a man, they had not picked up sufficient farm lore to carry them safely through life.

A man or a woman must be bred and born on a farm, must be thoroughly endued with the spirit that sees dignity in all labour, and must be ready to work late and early. "In the sweat of thy brow" was the dictum for the first agriculturist, and we have not in all this 6000 years passed that initial stage yet—nor will our children, and we do not desire it for them.

Lady Warwick says in her prospectus that there are openings for women trained in outdoor pursuits as gardeners, dairy and poultry women—that there is work for them in vineries, florists' shops, bouquet arranging, table decoration, picking, packing, bottling fruit, and jam making. As a matter of fact, there are hundreds of people seeking employment in these pursuits, and willing to work for wages and under conditions such as we should grieve to see gentlewomen subjected to.

Now, there is a great question as to the opening for female gardeners, and there is a prejudice (foolish, no doubt) against them. As for the dairy woman, she is quite overdone; dozens and dozens of capable women cannot find employment after a severe course of training, which has resulted in good certificates and diplomas.

The poultry woman may be needed—we hardly know sufficient of the "rights" of the case to hazard an opinion. As for the treatment of fruit, it seems to be entirely in the hands of competent firms, who are able by means of their large capital to put before the

public an excellent article at a moderate price. We fear the small manufacturer would be "nowhere" in the race.

Lady Warwick wishes to form, in various parts of the country, settlements for women, where they may grow fruit, flowers, vegetables, poultry, eggs, and honey. Does she mean that these women are to cultivate the necessary land totally unaided by male help, or are they to be only supervisors?

We pass on now to the cost of this education. The complete work of training necessary to obtain a Reading College certificate extends over two years, though special courses may be taken for a shorter period. Now the fees are for the two-years course as under:— Tuition and board for thirty weeks, £50, with laundry extra; for the special courses, 25s. per week, with laundry extra.

The reader will see that the intending student only works for thirty weeks, thus leaving the board and lodging of twenty-two weeks to be provided for elsewhere. A woman cannot get board and lodging for much less than 15s. per week=£16 10s.; add to that laundry, dress, and other expenses. It will be plainly seen that women of moderate resources—approaching to strained circumstances—cannot possibly enter on this course. Thoughtful women who have the necessary means, but nothing to spare, would naturally hesitate to spend so much on an untried scheme. Supposing a woman has passed successfully through her two-years course, who guarantees her employment? What chance is there of it? Very little indeed, to our way of thinking.

There is a notice to special students—those who are, or hope to be, landed proprietors, and who wish to get a little insight into agriculture, or to go through some special course of training. Those ladies with money to spare can, of course, spend it as they choose, and we would much rather see them invest in this essentially speculative scheme than that their less fortunate sisters should run the risk of further diminishing their already too limited resources. Our sympathy with ladies of small means, and our desire to see them in more comfortable circumstances, are at least equal to that of Lady Warwick, and just because it is so we tremble to think of the consequences to the majority of them after this sixty-weeks tuition—namely, not certain and increased prosperity, but possible bitter disappointment.

As for the settlements scheme it looks very well on paper, but the women to succeed must possess unusual strength of character, for the difficulties to be surmounted are herculean. We do not say they cannot grow flowers, fruit, vegetables, eggs, and poultry, but will they be able to find a remunerative market for the same? Can they get themselves into touch with the consumers without recourse to the middleman? We shall anxiously watch the growth of this movement. We are not captious critics, but have honest convictions and feel it a duty to express them. We know how hard it is to make a start in a new direction, and how for one successful venture we may count on 100 failures. We do think a few students, farmers' daughters, or intending farmers' wives might be greatly benefitted by taking a special course of subjects, but few could find time for a two-years course or the money to pay for the same.

We do not see it stated who is going to find the capital for starting the settlements project—the settlers themselves, Lady Warwick or her wealthy friends? We should not advise any poor gentlewoman to put her money into such a scheme unless she had some very ample security. To opulent women with leisure this way of pleasantly spending time and money may commend itself, but to those who must work hard for daily bread the plan presents too many difficulties without sufficient prospect of tangible result.

[Seeing that the writer of the above cursory review of the Countess of Warwick's excellently intentioned scheme is a highly educated scientific and practical farmer, intimately acquainted with most of the minor subsidiaries alluded to, we are bound to attach weight to the opinions expressed; and we can scarcely resist joining in the hope that the hostel will be mainly filled and replenished by "gentlewomen who are or will become landed proprietors, and who wish to study agriculture" in its various aspects as treated in a collegiate

institution. As regards "work for women in vineries," it is a fact that the former practice of employing them during the Grape-thinning season has been discontinued by practically all the greater and most successful growers of fruit for market.]

WORK ON THE HOME FARM.

We have had a splendid rain, and at last are able to plough with some feeling of satisfaction. Uneasy, impatient farmers have been scratching at the soil, and although they have altered the appearance of the fields we do not consider that they have been ploughed. The Wheat may be got in a week earlier than that on the land which is still to plough, but we would rather choose the latter to produce a crop. On the former there must be a difficulty in getting the seed properly covered, and we should advise a liberal allowance of seed corn, for the birds are sure to claim a good share.

There has so far been a very poor demand for seed Wheat, but now rain has come a change should come o'er the scene. We are thrashing some of Scholey's Square-head, which is a good Wheat for good deep soil, but is not suitable for thin or light land. Carter's G, or Stand-up, is a very good Wheat for very rich soils, but we find it too short in the straw. Whether straw be sold away or used on the farm the difference between a large and a small straw stack is a consideration. Webb's White Queen is well spoken of, and is suitable for light soils.

Potatoes being all lifted, or practically so, we must see that the stores are made safe for the winter. Any heaps not yet soiled over must be examined, and if the straw is found to be wetted through a layer of dry must be placed beneath next the tubers before the soil is put on. Where already soiled up, but left a little open along the ridge, the straw may have got very wet along the top. A cap of dry straw had better be put across the ridge and covered with soil, except about 6 inches along the top. This will keep out any further rain, and the natural warmth caused by the sweating of the heap will soon dry the wet straw beneath.

It is seldom that the top of a Potato pile gets injured by frost. The damage is usually done along the foot. It should always be seen that an extra thickness of straw is put on there. Some farmers put straw lengthwise next the tubers for a foot or 18 inches near the ground, and then the ordinary thatching perpendicularwise above, but wrapping quite over it. An extra thickness of soil is also useful, but not so safe as the extra straw.

Turnips look very yellow in the top, and we fear the rain has come too late to do much good to many crops.

OUR LETTER BOX.

Farm Implements (Constant Reader).—You have not complied with our requirements in sending your name and address. See the instructions "To Correspondents" on a preceding page. It is not journalistic practice to prepare and insert free advertisements for non-advertisers. We will, however, send some particulars if you like to forward a stamped directed envelope for the purpose, as it is our pleasure to oblige constant readers in any way we properly can.

METEOROLOGICAL OBSERVATIONS

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.
1898. October.	Barometer at 32°, and Sea Level	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Temperature.		
		Dry.	Wet.			Max.	Min.	In Sun	On Grass	
	inches	deg.	deg.		deg.	deg.	deg.	deg.	deg.	inches.
Sunday 16	29.060	49.7	48.6	N.	52.1	55.9	47.9	66.3	47.7	0.297
Monday 17	28.937	56.2	54.1	S.	52.4	63.9	49.4	85.2	45.3	0.411
Tuesday 18	28.822	53.6	53.6	S.	53.3	60.1	53.6	88.4	47.9	0.424
Wednesday .. 19	29.382	54.8	52.1	S.	52.9	56.3	49.2	63.3	42.2	0.053
Thursday .. 20	29.765	50.4	49.1	W.	52.8	59.4	46.1	69.4	39.1	0.261
Friday 21	29.628	59.4	59.1	S.W.	52.9	65.3	51.9	76.9	47.3	—
Saturday.... 22	29.924	60.3	59.2	W.	55.0	63.8	53.6	69.9	55.2	0.915
	29.360	54.9	53.7		53.1	60.7	51.0	74.2	46.4	1.491

REMARKS.

16th.—Fair morning, a little faint sun at noon; rainy from 3 P.M., and heavy rain at night.
17th.—Sunny morning, showers at 3.30 P.M. and 4.30 to 5 P.M.; damp evening.
18th.—Heavy rain in small hours and from 8 A.M. to 11 A.M.; sunshine from noon to 1 P.M., and fair after.
19th.—Rain from 4 A.M. to 7 A.M.; dull and damp day, with rain at intervals.
20th.—Sunny morning, with solar halo; overcast afternoon, rain in evening.
21st.—Almost continuous rain till 9 A.M.; fair mild day, damp night.
22nd.—A little sun early; dull from 8 A.M., with occasional drizzle, and showers in evening.
A week of high temperature and heavy rainfall, but not devoid of sunshine. The first week with more than an inch of rain since September, 1897—
G. J. SYMONS.

BARR'S GOLD MEDAL DAFFODILS The Most Lovely of all Spring Flowers.

Send for **BARR'S DAFFODIL CATALOGUE**, illustrated with original photographs taken at the Long Ditton Nurseries, and containing a Descriptive List of all the finest Daffodils in cultivation, and the latest Novelties for 1898. Free on application.

A Few Fine Sorts for Pots or Outdoors.

EMPEROR, petals primrose, trumpet full yellow, large flowers of great substance, per 100 3/4, per doz. 4/6.
HENRY IRVING, one of the earliest, very large flower, fine deep golden yellow, per 100 21/-, per doz. 3/-.
QUEEN OF SPAIN, very beautiful delicate soft yellow, with reflexing petals, per 100 17/6, per doz. 2/6.
BICOLOR HORSEFIELDI, petals pure white, trumpet golden, handsome, very early, per 100 17/6, per doz. 2/6.
INCOMPARABILIS SIR WATKIN, a very handsome large flower, petals sulphur, cup rich orange yellow, per 100 25/-, per doz. 3/6.
BARRI CONSPICUUS, broad yellow petals, cup conspicuously edged bright orange scarlet, a beauty and a general favourite, per 100 17/6, per doz. 2/6.
LEEDSII, M. M. DE GRAAF, broad white petals, white cup suffused orange, very beautiful, per doz. 8/-.
TRIANDRUS ALBUS ("Angel's Tears"), a gem on rockwork, pretty cream-coloured flowers, petals reflexed, per 100 8/6, per doz. 1/3.
POETICUS POETARUM, the most beautiful of the white Poets' Daffodils, per 100 12/6, per doz. 1/9.
BARR'S GENERAL BULB CATALOGUE, containing a Descriptive List of the best Bulbs and Tubers for Autumn Planting, and a List of Bulbs and Plants for Early Forcing. Free on application.

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CARNATIONS.

CATALOGUES FREE.

NOTICE OF REMOVAL.

MR. WEGUELIN, F.R.H.S. (late of Shaldon and St. Mary Church), desires to give notice that his Carnations are now ready for immediate delivery, and that on and after Sept. 29th, his address will be
DAWLISH, DEVON.

ROSES! ROSES!

The Best and Cheapest in the World.

12 Acres of Roses. 100,000 grand plants to select from. 40 choice dwarf Perpetuals for 21/-; 20 choice Standards or Half-Standards for 21/-; purchaser's selection. 50 Dwarfs, unnamed, 12/6. The following are my selection, carriage free: 12 choice Teas and Noisettes, 9/-; 6 Maréchal Niels, 5/-; 12 choice Climbing, 7/-; 12 best Hybrid Perpetuals, dwfs., 7/-; 6 lovely Yellow Roses, 5/-; 6 Gloire de Dijons, 4/6; 6 beautiful Fairy Roses, 4/-; 6 choice Moss Roses, 4/-; 6 old Cabbage Roses, 4/-; 6 old-fashioned Roses, 4/-; 6 Crimson Monthly Roses, 3/6; 6 Pink Monthly Roses, 2/6; 6 White Monthly Roses, 3/6; 6 quick-growing Climbing Roses, 2/6; 12 Sweet Briars, 3/-. All for Cash with order. Thousands of testimonials. Catalogues free.

JAMES WALTERS, Rose Grower, EXETER

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LOUGHBOROUGH JUNCTION, LONDON, S.W.—Ferns, large and small, in variety; Adiantums, Grevilleas, Cyperus, Ficus, Ericas, Palms, Dracenas, Aspidistras, Hydrangeas, Pelargoniums, Fuchsias, Marguerites, Crotons, &c. Trade and for Wholesale List. Special List for Amateurs, send for one.—**J. E. SMITH.**

COTTAGE GARDENING; being an Essay to which the Royal Horticultural Society awarded Mr. W. EGERTON HUBBARD'S Prize, February 16th, 1870. By E. W. BADGER. Third Edition. Price 3d.; post free, 3½d.—**JOURNAL OF HORTICULTURE OFFICE, 12, MITRE COURT CHAMBERS, FLEET STREET, E.C.**

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Journal of Horticulture.

THURSDAY, NOVEMBER 3, 1898.

THE JOURNAL OF HORTICULTURE can be obtained from the Office, 12, Mitre Court Chambers, Fleet St., London, post free for a Quarter, 3/9. Editorial communications must be addressed to 8, Rose Hill Rd., Wandsworth, S.W.

IMPROVING FRUIT TREES.

OLD AND YOUNG.

EXAMINATIONS of fruit trees in two private gardens recently led to advice being given, which, if carried out, may be of service in both instances. As there are thousands of trees similar in character in various districts, capable of being improved, a register of the simple treatment advised may not be unacceptable.

In the one case the trees were very old, some of them more or less decrepit centenarians; in the other young ones had been planted, and most of them were extremely vigorous, but not all, for some had made little growth. The young trees in one garden had been planted mainly for affording fruit for sale; the old ones in the other, with a few not old, were only required to give a supply for home use.

In the case of the veterans the jobbing gardener wanted to root them all out, and show what he could do with young ones. He had been a soldier, "taken up the gardening business," regarded the old trees as enemies to be killed, and longed for recruits to cut and trim into shape. The owner of the garden differed. He loved the old trees for their beauty in spring and their quaintness always, while they yielded many bushels of fruit, which for cooking purposes quite satisfied the household. The presiding genius over the domestic department loved the old trees still more, especially a grotesque tricenarian, which tree yearly devoted itself to nourishing a solitary Apple.

The masculine head of the snug little establishment, before being quite "out-soldiered" by his man, sought, as above intimated, what he considered expert advice; and then seems to have been much troubled in mind, lest it should result in the condemnation of the old trees, and make the soldier strut the more, and feel he ought to be promoted to captain; but not one word of such fear or of personal desire was uttered by the owner to the visitor, who was left to give an absolutely unbiassed opinion.

The residence, an old-time structure with low thick walls and irregular angled gables, had passed through the storms of centuries. Quaint and ancient-looking without, but cosy and comfortable within, it had been purchased, with its tangled garden and tree surroundings, as a restful home

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after busy years spent in bustling London. The old trees stood here and there, as if they had sprung up accidentally, where the birds happened to drop the seeds. Yet they had been planted, for the first tree examined was a towering Blenheim Pippin—a real timber tree, and no doubt ranking as one of the oldest Blenheims that still bear useful fruit. “Now, what would you advise about this tree?” was asked, with a suspicion of trepidation, as if the response was feared—“Cut it down.” The reply was, “Cleanse the stem and branches as far as can be done; cut clean out the worthless interior growths, the leaves of which cannot reach the light, and thus divert the sap into the branchlets that hold their leaves to the sun—the only parts that can bear fruit; drive down crowbar holes in the lawn here and there, the more the better, from the trunk to beyond the spread of the branches, and flood them with a solution of guano again and again—a handful to a 4 gallon can of water; fill the holes with fresh soil containing wood ashes and a free dredging of superphosphate, pressing it down firmly, and the tree will be better fed than it is now, and, the nutriment concentrated on the blossom-bearing branches, better fruit will follow.”

A smile of approbation followed, and the next tree was scanned. “Treat it in the same way,” and the next “Just the same.” The owner breathed freely, and his spirits rose, till he was constrained to ask, in a jubilant strain, “Then you would not cut the old trees down? We very much feared a death sentence.” “Cut them down! Why to do so would be to destroy the whole character of the place, and obliterate its venerable charm. The house is a picture among the trees, and the garden in spring and summer a delight. Destroy them, and all would be bleak and bare, and the house no longer the restful bower it is to-day.” Then was the owner happy as he remarked, “It was the trees as much as the house that we bought the little property for, as a quiet leafy home, as much unlike the modern suburban dwelling as possible, in which to spend the eventide of life.”

When the verdict was made known to the “better half,” that the old trees were to be spared, helped, and nourished, her delight was great, for she lives in her shaded garden in summer, and tends her flowers when health permits. “Do you know,” she said, “I dreaded your coming, as I didn’t know what you would do or order to be done to the dear old trees; and I have had such a bad night—actually dreamed of a man in the tree tops cutting and slashing off the branches and making me shudder. But I see you are not the man. I thought him such an object, for he had a tall hat and long black coat on, as he struck all around with his great chopper, and quite scared me.”

“Have you any old gardening books in the house?” was then asked of the owner. The reply was, “Oh, yes, I never pass one, but buy all I can. We think some of them so interesting that we devour them, and the old gardeners, of the past seem so quaint, like our old trees.” The sequel was revealed, the lady had been poring over one of these ancient books and taken a mental photograph of one of the consequential old worthies who ruled over gardens in the long ago, and actually pictured him as worse than a scarecrow.

Not one of the old trees was condemned—no doubt to the disgust of the soldier man who scorns books and papers and all “they things, cos if yer wants a bit o’ good gardnin’ yer must go the man as do it.” Such men abound near towns, and the best of them are useful, but the proper description of the majority is not gardener, but spoilt labourer. Perhaps it is well for the present soldierly example that he does “not need to read anything”—even regarding him as one of the best of his class—or he might on reading these lines be driven to become a deserter.

In the consideration of trees regard should always be had to the purpose they serve, and the pleasure they give in more ways than one to their owners. It is easy to undo the work of generations in a week, and deprive a residence of a primary charm. Even in the absence of æsthetic considerations it is unwise to indulge in anything like a complete clearance of old fruit trees and plant young ones on the same site, because, obviously, there cannot then be any substantial supply

of fruit for a few years, and this would be far worse than the loss of what some at least of the old trees would have produced with cultural assistance.

The prudent course is to make the best of the old till young trees, which ought to be planted in an open position, arrive at a free bearing state; and they will flourish far better and continue productive much longer than if planted on the site of an old orchard. For planting in openings between old Apple trees, Plums are likely to succeed better than Apples, but if these must be planted it is advisable to choose, not choice and delicate varieties, but hardy, vigorous growers, because these are the more capable of forcing their way amidst obstacles to which the weaker might, and often do, succumb.

It has been said in the above-mentioned examination that all the old trees were spared, and it may now be added that only some young trees were condemned. These had been in their positions, perhaps, half a dozen years, more or less. They may have been healthy when planted, with long young branches; but these had not been shortened, and the trees assumed a stunted habit from which they never recovered, or could under any treatment be made healthy, for stems and branches were simply ulcerated with canker. The proper place for such miserable objects is the fire, for by no known means can they be made either useful or ornamental. But there are other young trees—in other gardens and plantations—of quite a different order, so exuberant through either the annual close shortening of the long Willow-like branches, or the nature of the soil, that they must remain practically barren for some time, if means are not resorted to for expediting fruitfulness. Such means are simple, and may, perhaps, be referred to on a future occasion.—INSPECTOR.

TO-DAY.

SUN and rain have each struggled for supremacy. The rain has fallen like molten silver, the sun has lighted up the crimson and gold that Nature is scattering so lavishly around. The leaves are loth to go; the mild air and soft rain have given them renewed life—a life so beautiful and bright that they cling to it. Gold around us here, there, everywhere, gold of all shades, from the palest cream to the richest tawny—so plentifully spread that all may take their fill, and, unlike the earthly dross, this fairy gold enriches the mind rather than the body. There is no canker in it, no pitiful meanness, no sordidness. The woods, the hedgerows, the fields are alike robed in these regal garments, with crimson touches here and there to give a warmth to the whole. Berries of all sorts abound; festoons of Bryony in every hedgerow, set as thickly with coral balls as it is possible to be. Whether the neighbourhood traversed is especially suitable for its growth we know not, but this afternoon we passed chain upon chain—enough to decorate every church in the diocese. Then the Privet with its jet black clusters, and the Snowberry, each so lovely of its kind, and so elegant as decorations, especially when mixed with Rose heds, which are just in their glory. As for the Hawthorns, they are borne down beneath their gorgeous load, and their leaves are only just yellowing.

There is the grey silver of the Willow, which so far shows no change; the soft browns of the Oak, the richer shades of the Bracken, and even the yellow leaf of the uninteresting Turnip has a charm of its own, while the Mangold is rich in shiny green. Pretty branches and bright colours abound on every side, and the autumn posy is gay indeed. A handful of Madame Desgranges, with a stray crimson rosebud, and a changing spray of Félicité Perp. tué is before our eye as we write. Even the homely Currant leaf is a thing of beauty, and the Pear branch is hanging out scarlet banners. It is not the day of exotics. Each cottage garden is finer by far than the grandest greenhouse, and the village, nestling in the background of trees, is the best picture of all. The smoke goes up blue, there is a smell of wood fires, and an occasional whiff of something savoury cooking for the good man’s supper. It is too fine to shut up for the night, while daylight holds out at all, and the pleasant gleam of flickering fires passes out across the darkening gardens.

Have you ever looked carefully at the fallen Horse Chestnut, and then up at the yellow leaves, and have you noted how the dark brown of the one accentuates the gold of the other? The Yew berry never gets that attention it should, and yet how lovely is its crimson waxiness. It is so small that were it not decided in tone it would be lost in the depths of the black green by which it is surrounded.

The birds forget summer has gone, and sing as blithely as ever, so glad to put off winter cares for a time. The children and the squirrels are sharing the nuts; which gets the larger half? The urchins have had a fine time among the Brambles, for so large a crop has not been seen for years, and there are many at school with hands suspiciously browned with that stain only found on the outer husk of the Walnut. A good fresh Walnut is worth a bit of stain, and the treat does not come every year. The days are so bright and so cheerful that at present we can hardly sympathise with Tennyson when he says:—

“My very heart faints, and my whole soul grieves
At moist, rich smell of the rotting leaves,
And the breath
Of the fading edges of Box beneath,
And the year's last Rose.”

—THE MISSUS.

P.S.—For a glowing overmantel decoration, be at the trouble of hunting some long sprays of Bramble; the leaves are so symmetrical, the colours so warm, that it is worth a few scratches.

VEGETABLES FOR HOME AND EXHIBITION.

POTATOES.

HAVING dealt (page 200) with early Potatoes, we may now turn to those that constitute the main crop, which are the most important, as on them we depend for nine months in the year. The main crop is worthy then of the greatest care, and though fine results are obtained from soils of very diverse character, there are certain conditions necessary to success. One of these is a well-drained medium, and if of a sandy nature so much the better. The second is deep cultivation, the land being dug deeply in the autumn, and if not in good heart the benefits of a dressing of good farmyard manure applied then will be felt later on. To grow Potatoes fit for show is only a matter of good cultivation and the carrying out of well-tryed principles, therefore the extending of these details from the few to the whole is bringing the culture of Potatoes for home and exhibition to about the same thing. Generally the care that is devoted to the preparation of sets for early varieties is not extended to the main crop sorts, but in order to assist Nature as much as possible whole even sets of about 3½ ozs. should be chosen and placed in shallow boxes a few weeks prior to planting, and before the operation is performed remove all superfluous sprouts, leaving one or two of the best, as two strong stems above the ground are much better than a mass of weak growths.

It is a mistake to place main crop Potatoes too closely together. Each plant should have sufficient room to expand fully without encroaching on its neighbour, and one of the greatest incentives to disease appears to lie in too close planting. The tangled mass of top-growth is weak, and the sun and air have no chance of circulating amongst it; consequently the ground and the hidden portions of the haulm are never dry, and it is here that the germs of the blight gain a foothold. The distance from row to row must be determined by the character of the variety planted, but 2 feet 6 inches for sorts growing a medium height, and 3 feet for robust main crop varieties, will generally be found suitable. The distance between the sets must be determined in the same way, ranging from 12 to 18 inches.

Various methods of planting are adopted in different parts of the country, and good crops are obtained by all of them when other conditions are favourable. When the soil is friable and in good working condition the drawing of drills, fixing the sets, and replacing the soil is one of the quickest methods, and on the whole satisfactory, but almost every grower pins faith in his own particular system. From the middle to the end of March is the best time for planting, provided the soil is in good condition and the weather favourable, and as soon as growth can be discerned above the ground the surface soil must be periodically stirred. It is a mistake to delay earthing after the haulm is high enough, and it is important that this work be done thoroughly. In times of disease half-moulded Potatoes suffer the worst, through the spores of the disease falling from the foliage on to the exposed tubers.

Numerous experiments have been made to determine the suitability of farmyard and chemical manures as fertilisers for Potatoes, and the results on the whole are contradictory. A judicious blending of the two appears to be the most satisfactory, and with regard to the latter it is impossible to state a mixture suitable alike for all classes of soil. Both soot and lime are well known as excellent fertilisers, and soil that is deficient in the latter should be dressed in the autumn and winter. Mixtures of four parts of superphosphate of lime and three of kainit have given good results when applied early in the season, and the rapid action of the sulphate of ammonia and nitrate of soda is noticeable when applied as top-dressings after growth has commenced.

Considering the number of maincrop varieties in cultivation it is difficult to give a short selection of the best without leaving some good ones out. Among the second early and maincrop sorts are Supreme, a handsome white kidney suitable for exhibition, but of not very strong

constitution. Reading Russet is a coloured tuber, and often seen on the show board. The maincrop Potato of the day is probably Up-to-Date. The tubers are rather too large for some tastes, but taken all round it is a fine Potato, and grows remarkably free from disease. For quality I know of no superior to Universal. This splendid round Potato has only to be grown to be appreciated. It is a prolific cropper, and the tubers are free from deep eyes, while for cooking there could be nothing better. The skin of Universal is slightly rough, but the appearance is good enough to recommend it as an exhibition Potato. The Wonder is an excellent late round Potato possessed of heavy cropping powers, good eating qualities, and is well worth a trial. The variety is a cross between Magnum Bonum and Imperator. Both Satisfaction and Windsor Castle have created reputations for themselves since they were introduced. Her Majesty is a good variety, for which Mr. Findlay is responsible. In addition to the above there are of course numerous other varieties more or less well known, but enough are mentioned to provide a selection for all ordinary purposes.

Continual change of soil and sets in Potato culture is an old precept, but none the less useful on that account, and should be closely followed. Disease is still the bane of growers in some seasons, and, in spite of precautions, will assert itself. In addition to the spraying preventives—which are not always practicable to small growers—much may be done to prevent the murrain by good cultivation. Moderation in the use of strong manure, not planting from infested stocks, and, above all, careful selection of varieties of robust disease-resisting habit. In conclusion, the best Potato is one that is medium in size, even and regular in shape, free from deep eyes, and rough scabby surface, and good in quality when cooked. A variety that possesses these characteristics is appreciated in the dining-room, and possesses the needful requisites for securing the coveted prize card on the exhibition table.—GROWER AND JUDGE.

A DEFENCE OF THE DROUGHT.

THERE has been a long-continued wail on the part of gardeners with respect to the drought, and, so far, I have not seen a word on the other side. It is easiest and pleasantest, of course, to swim with the stream, but whether man's best qualities are developed when he perpetually goes with the tide is open to question. Be that as it may, and in spite of the fact that I am probably running my head against hard thumps, I mean to say a word on behalf of the drought. Better an occasional thump than a sheep-like submission to the dictates of the crowd.

First and foremost of the good things which drought brings in its train is, so far as vegetables are concerned, flavour. I am not aware that this has been suggested before, and I am quite prepared to hear it treated with derision. It will, however, require a vast amount of this criticism to convince me that I am wrong. For many years past I have made a close study of the flavour of vegetables, during long periods restricting myself to them almost entirely for daily food, but never have I found the flavour more richly developed than in this last season of drought. In long spells of wet weather most vegetables make sippy and plethoric growth, inclined to rankness. There is an almost entire absence of the mellow, sweet and nutty taste, which has been paramount during the past summer.

I could, of course, explain the matter to my own personal satisfaction and that of my seedsmen by claiming that the happy result is a combination of good culture and choice selection of varieties. But a modest candour compels the statement that neither is wholly, or even largely, the cause; it lies in the riper, more compact growth, brought about by the drought. In nothing, I might say, is this point of flavour more plainly noticeable than in Cabbage. In another burst of candour I am constrained to admit that a good deal of my summer and autumn Cabbage has been infested with caterpillar, yet, though they looked shattered and forlorn in consequence, the hearts have been of delicious quality.

Vegetable Marrows grown without manure and without any artificial watering, and next to none in a natural way from the clouds, have not only made healthy growth but, what is more important by far, have fruited with lavish abundance. So vigorous and healthy are they that to-day, after four months' growth, I am able to count as many as seven fruits on a yard run of line, every one safely set and some rapidly swelling. Carrots have given, and are giving, a melting, buttery richness of flavour which they rarely develop. It is not only observable in roots drawn young, but in larger ones that, having been thinned, have acquired full length and girth. Not a particle of manure have these had, not a drop of water given them. Sown on a piece of ground from which Mangolds were taken last year, they have proved—what, perhaps, hardly required proof—that roots after roots, and minus manure, is not necessarily bad culture; but, on the contrary, that if a proper tilth is secured, the best economy has been practised.

2 Potatoes have not borne record crops; as a matter of fact, they are

yielding well, but not very heavily. Yet in a large collection of varieties the proportion of poor-flavoured tubers is so small that 3 or 4 per cent. would cover it. The majority are cooking splendidly. They are not necessarily "balls of flour," which is a figure of speech that ought to have been done away with years ago, considering that many of the really rich and high-flavoured yellow-fleshed sorts have very little "flouriness" about them. But they are, with hardly an exception, ripe, unctuous, and full of taste—Potatoes, in fact, that satisfy the palate far better than mere fluffy flakiness.

But the drought does more than give us flavour in our vegetables, it teaches us new lessons, and gives us fresh moral training. A man may be able to point to show successes by the yard, but unless he can prove that he is capable of supplying the table with a plentiful supply of sweet and wholesome produce in the face of difficulties and inconvenience, he can only claim to be half a gardener. Gardening without water is a distinct branch of the art of horticulture. It means new ideas, novel devices, ever changing lines of action. Countless schemes, born of wants of the moment, have to be resorted to. When young greens are planted under a brazen sky, with three months' drought behind them, and perhaps another three in front, with shading material as scanty as the water supply, the wits of the planter must act quickly and promptly. Perhaps there is a fading row of Sweet Peas that may be hastily dragged out, sticks and all, and spread over the gasping plantlets, or maybe a few armfuls of Carrot tops come in. It is not a time for standing on ceremony; while you are hunting round for something orthodox the plants are dying, and better heterodoxy than an empty garden. Alertness, resource, readiness to make the most of the smallest thing at the shortest notice—these are traits of gardening character which drought fosters.

There is, too, another big lesson to be found by a little burrowing in the dust of this parched-up year. I allude to the lesson of deep and perfect tilth. Deep culture in itself is not enough; it will not give the young plant the quick send-off in spring, which is so essential to its success. Surface culture in itself is not enough, for it will not supply the fast-developing plant with the moisture that it needs later in the year. But the two combined work marvels. They are correlative, and their separation leads to disaster. The drought will not have troubled us in vain if it teaches the mighty and far-reaching truth that Nature ever holds something in reserve, and rewards for robust and intelligent labour, applied with courage and faith in the hour of trial.—W. PEA.

SUCCESSFUL MELON CULTURE.

WHENEVER I go to Cardiff I make it part of my business to look up Mr. Pettigrew, and with him spend a few enjoyable hours in the Castle gardens. Mention has already been made of that noted gardener's success with pot and other Grape Vines, and I would now direct attention to the very successful manner in which he grows Melons. As far as my experience goes the method of culture adopted differs considerably from that followed generally; and only at Longleat, in Mr. Taylor's days, have I seen crops of Melons equal in weight and quality to those grown in Cardiff Castle gardens. Whether the plants are grown in ordinary plant-stoves, Melons occupying the side beds, and Crotons and a variety of other heat-loving plants the central pits, or Pine Apples, as of old, the centres and Melons the sides, or Melons occupy part of a span-roofed house and either Tomatoes or Cucumbers the other half, the result is always the same—abundance of fine fruit.

At Longleat two or three plants grown on the extension system were enough to cover a roof about 30 feet long, but at Cardiff Castle they are planted more thickly, or, say, 4 feet to 5 feet apart, with plenty of head room. All are planted in narrow heated pits, in beds 2 feet wide, filled 1 foot in depth with strong loam. This is not arranged in the form of a ridge from which the water so much needed by the Melon roots occupying the soil runs off, but is made perfectly level.

As a preventive of canker each stem is enclosed in an earthenware collar, which, if I remember rightly, are about 9 inches in diameter, and are made specially for the purpose. With these in position the beds may be flooded, as they frequently are, with water and liquid manure, without wetting the stems of the plants, and, if need be, syringing water or drip may be excluded by means of brown paper. There is no drying off the plants at the roots, and under this treatment—a modification of the extension system of training rather than the close stopping practice more in vogue—the plants are continuously bearing.

Instead of a crop all of one age, and foliage more or less defunct, the plants at Cardiff are in perfect health, carrying fruit of various ages at one time. Some may be fit to cut, others fast swelling to their full size, and a few more about the size of Lemons, or smaller, all on one plant. On a single plant from which a respectable crop of large fruit had already been cut I counted ten more in different ages, the heaviest weighing not less than 6 lbs. Grown and ripened under such conditions the fruit is bound to be thick in the flesh, juicy and richly flavoured.

The favourite varieties are Blenheim Orange, which is still one of the best, if not the very best in the scarlet flesh section; Golden Orange, a handsome ribbed variety belonging to the Hybrid Cashmere type, and grand for exhibition purposes, and Holborn Favourite. The last-named

was raised at Cardiff Castle. Of this there were scores of fruit weighing from 5 lbs. to 7 lbs., all handsomely netted, the more forward changing to a rich golden yellow colour. It is white-fleshed, and the quality hard to surpass. Mr. Pettigrew ought to exhibit some of his Melons at one of the meetings of the Royal Horticultural Society, also contributing a paper on his method of culture.—W. IGGULDEN.

FASCIATED RUNNER BEAN.

I SEND for your inspection a fasciated Scarlet Runner Bean stalk with a few pods attached. I have never heard of a similar phenomenon in the Bean tribe, though I have frequently noticed similar abortions in



FIG 58.—FASCIATED RUNNER BEAN.

Asparagus, Liliums, young Ash trees, Dahlias, Vegetable Marrows, and other plants. Perhaps it may be figured in the "Journal."—WILLIAM GARDINER.

[Dr. Masters, in his interesting work, "Vegetable Teratology," puts the cause of the fusion of several growths together, and thus producing a flattened or other form of monstrosity, concisely as follows:—"If it happen that an unusual number of buds be formed in close apposition, so that they are liable to be compressed during their growth, union is very liable to take place, the more so from the softness of the young tissues. In this way it is probable that what is termed fasciation is brought about." A list is given of upwards of 150 plants in which this malformity has been observed. In this list we find Phaseolus sp. P. vulgaris and P. multiflorus are not mentioned, and the author had evidently not seen a case when the list was compiled. Many things, however, have happened since then—thirty years ago—and among the best is the presence of the Doctor, with intellectual and physical activities little worn by the erosion of time. We find Phaseolus vulgaris fasciatus in Johnson's "Gardeners' Dictionary," but have not seen an example like the one sent by Mr. Gardiner.]



EVENTS OF THE WEEK.—In addition to the meetings of the Committees of the Royal Horticultural Society on Tuesday next, the coming seven days will bring some scores of Chrysanthemum Shows all over the country. The dates of several of the more important ones will be found on page 338.

— WEATHER IN LONDON.—Saturday last brought with it a terrific storm of wind and rain, the latter descending in torrents. The gale apparently reached its greatest force at Camberwell, where people were lifted bodily from the ground, and cabs were overturned. Sunday afternoon was again very wet, but the sky cleared, and the moon shone brightly towards nine o'clock, while Monday was a splendid day, Tuesday and Wednesday were also fine.

— HYBRID FAILURES.—I shall be greatly obliged to any raisers of hybrids or varieties by crossing (*not* spontaneous seedlings) who will tell me of any species which failed to take the pollen of any other species, or of any variety of a species which could not be fertilised by crossing it with some other variety or species. I should like also to record any plants which could not be fertilised by their own pollen, or with pollen of other plants of the *same* species.—GEORGE HENSLOW, 80, Holland Park, W.

— PARIS UNIVERSAL EXHIBITION, 1900.—The plans of the horticultural section at the Paris Exhibition of 1900 are now complete, and it promises to be a very attractive building. Space has been secured for British exhibitors, and it is hoped that it will be filled in a manner to reflect credit on horticulture in this country. It is understood that there will be periodical shows of flowers and fruit during the continuation of the exhibition. A sub-Committee of the Royal Commission composed of the following gentlemen has been formed:—Sir J. Trevor Lawrence, Bart., Sir Edward Grey, Bart., M.P., W. T. Thiselton Dyer, Esq., Dr. Masters, Dr. Schlich, T. A. Dorrien Smith, Esq., and Harry J. Veitch, Esq. The latter gentleman is Hon. Secretary to the sub-Committee, and any communications may be addressed to him or to the Secretary, Royal Commission Paris Exhibition, St. Stephen's House, Westminster, S.W.

— NYMPHÆAS AND BEES.—Having several varieties of Nymphæas growing in an ornamental pond, I was desirous of obtaining crosses with a view of getting a few hybrids, but before deciding what course to adopt, it occurred to me that the bees (which were very numerous) may do the work, and I would only have to gather the seed and wait for results; but unfortunately the bees did not assist in the direction that I anticipated. Those that were obtaining the nectar from *N. flava* would in some instances go to the same flowers two or three times, and during the intervals, would often fly over *N. alba*, but would not even attempt to settle on the flowers, and the same thing occurred when they started with *N. alba*, they would not attempt to interfere with *N. flava*. Perhaps the flavour is a speciality with some, while others it may be colour. Can our floral or bee friends explain?—THOS. POCKETT, Victoria, Australia.

— DUTCH HORTICULTURAL AND BOTANICAL SOCIETY.—At a meeting of the Floral Committee held on September 14th, 1898, first-class certificates were awarded to Mr. H. Hornsveld of Baarn for *Canna* Hofgartendirector Wendland, and *Cactus* Dahlias Arachne, Capstan, Keynes' White, and Standard Bearer; to Mr. T. E. Houtvester of Utrecht for *Canna* H. Wendland; to Messrs. E. H. Krelage & Son of Haarlem for *Canna* Stadtrath Heidenreich, *Cactus* Dahlias Arachne, Capstan, Daffodil, Keynes' White, Kingfisher, Night, Norfolk Hero and Standard Bearer, and *Montbretia* *crocasmæflora* Oriflamme; to Mr. W. Van Veen of Leiden for *Cactus* Dahlias Arachne and Keynes' White; to Mr. B. Ruys of Dedemsvaart for *Cactus* Dahlia Keynes' White; to Messrs. Groenewegen & Son of de Bilt for *Rubus* *sorbifolius*; and to Messrs. V. Schertzer & Son of Haarlem for *Tagetes* Lemon Queen and Prince of Orange. Certificates of merit were given to Mr. T. E. Houtvester of Utrecht for *Chrysanthemum* Harvest Home; to Messrs. P. Van Noordt & Son of Boskoop for *Cactus* Dahlia Koningin Wilhelmina; to Mr. H. Hornsveld of Baarn for *Cactus* Dahlia Loreley; to Messrs. E. H. Krelage & Son of Haarlem for *Cactus* Dahlias Loreley and Stern Von Schöneberg, Sweet Peas Countess of Powis and Lady Nina Balfour; and to Mr. B. Ruys of Dedemsvaart for *Cactus* Dahlia Loreley.

— ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Floral Meeting of the Royal Horticultural Society will be held on Tuesday, November 8th, in the Drill Hall, James Street, Westminster, 1 to 4 P.M. A lecture on "Some of the Plants Exhibited" will be given by the Rev. Professor Geo. Henslow, M.A., V.M.H., at three o'clock.

— GARDENING APPOINTMENTS.—Mr. T. L. Cammins, late of Anglesey, Carshalton-on-the-Hill, Surrey, has been appointed head gardener to J. F. C. Heddle, Esq., Lovell House, by Crawley, Sussex. Mr. Charles Tyler, for the last three years with G. S. Blakeway, Esq., Tuffley, near Gloucester, has been appointed gardener to Sir Llewelyn Turner, Parkia, near Carnarvon, North Wales.

— ANCIENT SOCIETY OF YORK FLORISTS.—There was a full attendance of the members of the Executive of the Ancient Society of York Florists at the headquarters on Friday night, the occasion being the presentation of an illuminated address to the Rev. H. Vyvyan, who for four years has held the office of Chaplain to the Society, and who has had to resign that position on account of his leaving the city for a living in Cornwall. Mr. J. Pilmoor presided. The address was illuminated in colours and framed in oak, and the inscription was surmounted by the national arms, the arms of the Society and of York, and was surrounded by a beautiful and chaste floral design.

— THE BRISTOL GARDENERS' ASSOCIATION.—This Society held its usual fortnightly meeting on October 27th, when Mr. H. Farmer, from the Castle Gardens, Cardiff, read an exhaustive paper on Melon culture to an assemblage of about sixty members. A capital discussion followed, in which Messrs. Groves, Lee, Hancock, Brooks, Benfield, and Shaddock took part. At this meeting special prizes were offered to members for the best dish of six culinary and the best dish of six dessert Apples. Both these prizes were won by Mr. G. Bound, gardener at King's Weston, Bristol, with excellent examples of *Mère de Ménage* in the culinary, and King of the Pippins in the dessert class. A vote of thanks to the essayist brought to a close one of the most successful meetings the Society has held since its formation in April last.—CHAS. LOCK.

— RUSSIAN HORTICULTURAL EXHIBITION.—As the year 1899 marks the fortieth anniversary of the Imperial Horticultural Society of Russia, an international Exhibition, under the patronage of the Emperor, to be held in the Palais de la Tauride from May 17th to May 27th, is being organised, and we have now received the schedule. There are upwards of 200 classes, and the prizes are wholly confined to medals, of which there are six stages—namely, large, medium, and small, in both gold and silver. About 170 classes are confined to plants and flowers covering practically all kinds; two dozen to fruits and vegetables, and fifteen to models and structures, plans of parks, pottery, aquaria, and other necessary adjuncts to gardening. The Director of the foreign section is Mons. A. Fischer de Waldheim, Botanic Gardens, St. Petersburg, and the Secretary, Mons. W. Ender. The Commissioner for the United Kingdom is Mr. James H. Veitch, Royal Exotic Nursery, Chelsea.

— CACTI AT CANNELL'S.—"I had the pleasure the other day," writes "T." in a local contemporary, "of accompanying Mr. T. W. Cowan, the Vice-President of the Cactus Society, over the unique collection at Messrs. Cannell & Sons', Swanley, and I must say the inspection proved very pleasant and instructive. There are too many specimens by far to admit of even a faint description. Many are very beautiful. Most of the Cacti have those defensive spines which always remind one of the familiar '*Nemo me impune lacessit!*' I touched, in admiration, an extremely handsome *Opuntia*, and my finger was pierced with a multitude of minute hooks. The son of my companion, Mr. Cowan, owns perhaps the finest and rarest collection of Cacti in the whole State of California, but there they grow in the open air. Cacti in general possess a singular virtue above all other plants. Treat them ever so badly, they seem able to grow just the same. Most plants will perish if water be withheld, but Cacti, if ever so thirsty, never complain; they will stand neglect. You cannot exactly call a Cactus lovely, and yet this wonderful attribute which most of them possess seems to remind one of love when it's true. A visit to this odd collection suggests strange comparisons. How constantly one meets with eccentric men who are the better for their eccentricity. A certain measure of it delivers from dullness. Wonderfully correct, exact-circled, and desperately proper people are often cold and unlovely. You cannot help falling in love with Cacti! There is even something of the 'Cactus' character about Mr. Cannell, sen. He is certainly quite out of the common run of man." [We regret to add that three days after the above visit Mr. Cowan lost two of his family in the ill-fated *Mohegan*. Mr. Cowan and his family have our sincerest sympathy.]

— MR. MARTIN SMITH'S CARNATIONS.—Messrs. W. Cutbush and Son send us a large coloured plate of the following varieties:—Jane Seymour, carmine, pink reverse; Calypso, soft pink; Mrs. M. Smith, pink; Lord Welby, crimson maroon; Madame de Salgé, scarlet; Taora, white; Margot, coral pink; Mrs. Torrens, pale carmine; Albion, rose pink; The Shah, carmine; Lady Ulrica, salmon pink; and Iolanthe, pale carmine. The blooms are of the Malmaison type, and beautifully represented.

— LADYWELL COTTAGE GARDENERS' SOCIETY.—The Ladywell, Lewisham and District Cottagers' Horticultural Society held its fifteenth annual dinner at the Parish Church Hall, Ladywell, on Thursday, October 27th. Mr. T. W. Sanders took the chair, being supported by Mr. T. White as Vice-Chairman, and Mr. A. Pratt the Secretary. The prizes, consisting of medals, cash, certificates, &c., were presented to the winners by Mrs. Bickersteth, wife of the Vicar of Lewisham. There was a large gathering of members and friends, and the proceedings were of the heartiest nature.

— AN ONION ROOM.—In most well-appointed gardens we find a fruit room of some kind, but it is not often we see a specially constructed Onion room. When at Harptree Court, the beautifully situated residence of W. W. Kettlewell, Esq., the other day, I was shown such a room, newly built, on exactly the same principle as most of our fruit rooms. It is fitted with a stove for use in severe weather, and the racks will be used, when the Onions are gone, for seed Potatoes. Mr. Curtis, the gardener, is justly proud of his Onions, some of which are of exhibition size, but the greater part are smaller, and more useful in the kitchen.—J. E.

— ORCHIDS FOR MADAME PATTI.—At her recent Edinburgh concert, Madame Adelina Patti was presented by one of our Scottish contributors with a magnificent bouquet of Orchids, including *Cattleya labiata*, sent to him for this special purpose by Messrs. F. Sander & Co., St. Albans. These, and a bouquet of *Lapageria alba*, one of her favourite flowers, were immensely appreciated by the recipient, whose voice, as the "Scotsman" asserted, was richer and fuller in tone than it has been for many years. Last winter Madame Patti, who is an ardent lover and cultivator of flowers, planted at Craig-y-Nos Castle 5000 Rose trees, which have since afforded her great gratification.

— GARDEN PINKS.—I saw a week or two since large breadths some thousands in extent of varieties of hardy border Pinks that had, like the Carnations, done wonderfully well in the drought. All these were planted late in the summer, having been in the old plant stage lifted, pulled to pieces, then dibbled out, perhaps watered once, and then left to their own resources. I have never seen clearer, brighter, and more compact stock for lifting and planting now than these Pinks were. The varieties included Her Majesty, Mrs. Sinkius, Ernest Ladhams, Paddington, and several others, all good free blooming ones, and just such as all who love sweetly perfumed flowers may like to have in their gardens. Lifted and planted at once they would soon make new roots, and become very strong blooming clumps next year.—D.

— ONIONS.—There is danger of getting reference to these bulbs *ad nauseam*, and therefore I apologise for such reference now, because I find in the report of the interesting trial of Onions conducted at Chiswick during the year, published in the recently issued Journal of the Royal Horticultural Society, that the position I have taken up in favour of the varieties of the ordinary summer Spanish and Globe types being preferred for autumn sowing over the customarily advised Tripolis and Lisbon is fully sustained. Probably these latter varieties are chiefly sown in the autumn because the seed is cheap, because so persistently boomed by seedsmen and calendar writers, and because of traditional practice. None the less these things establish proof that such varieties are best for the purpose named. The preamble to the report states that sixty-nine stocks of Onions were sown in August, 1897. Early in March last a row lifted from each stock was transplanted close beside the sown one, and a few days later a third row was sown with seed from the same packet. "The trial proved that many of the varieties usually sown in spring are fully as hardy for autumn sowing as is the Tripoli type, when sown under exactly similar conditions; and further, that the Onion maggot will attack both autumn and spring-sown plants. A few bulbs in each stock were infested by this pest, but an application of 1 oz. of sulphate of ammonia to each square yard of ground checked the attack. In every case the transplanted autumn-sown bulbs were the largest and most shapely." Then of the varieties selected from this valuable trial for awards of merit, not one of the Tripoli or ordinary autumn-sown varieties was found worthy, as compared with the superior bulbs furnished by the ordinary spring-sowing stocks.—A. D.

— CARNATION LAYERS.—I have been interested to find how well Carnation layers generally have rooted this autumn, in spite of the great dryness of the soil they had to experience. No doubt where water could now and then be given they have done even better, but I am rather referring to cases where thousands of layers had been put down during August, or even early in September, and could have no water. Apparently the plants liked the dry atmosphere, and that helped to promote root action on the part of the layers even more rapidly than would have been the case had much rainfall taken place. Certainly when the weather is damp the wood somewhat softens through excess of sap; whilst in dry weather it hardens, and all the more rapidly exudes oxygenised sap on the layer tongues, and roots directly result. With such good hard, well rooted layers, Carnations should be excellent next summer.—A. D.

— HEDYCHUM GARDNERIANUM.—As a rule *Hedychium*s are associated with warm-house plants rather than cool; but this one, at any rate, gives greater satisfaction under cool treatment than under warm. In the temperate houses at Kew two large groups are to be seen planted in a border where they have been flowering freely for the past two months, and are still carrying a number of fine racemes. Under cool treatment the growths grow between 5 and 6 feet in height. They are short-jointed and sturdy, and thickly coated with a glaucous bloom. The leaves are dark green on the upper and silvery on the under surface, 15 to 18 inches long and 5 inches wide. The strongest of the shoots are terminated with cylindrical racemes of yellow flowers. The racemes are often 15 inches long by 7 inches through. No special treatment is necessary, given a loamy soil and an annual top-dressing of cow manure with abundance of water while growing.—D. K.

— LATE ROSES AND LILIES.—The season of these beautiful flowers—at least, in south-western Scotland—promises to be an exceptional one this year. To-day (October 27th) I obtained some fine blooms from the following varieties—viz, Countess of Caledon, Madame Abel Chatenay, A. K. Williams, Mrs. W. J. Grant, Mrs. Paul, Madame Charles, Marie Van Houtte, Hon. Edith Gifford, Caroline Testout, and Souvenir de S. A. Prince. My finest Crimson Rambler, growing on a sheltered and sunny west wall, has, *mirabile dictu!* within the last fortnight produced a second crop of buds. Whether or not these will come to maturity will depend upon atmospheric influences. At present the weather is mild and abnormally warm; they are, consequently, developing with great rapidity. My latest speciosum Lily (*L. s. Kraetzeri*) is just beginning to expand its flowers. A still later longiflorum *Harrisi*, born out of due time, will not be in flower for a fortnight yet.—DAVID R. WILLIAMSON.

VEGETABLE SHOW AT BIRMINGHAM.

OCTOBER 26TH AND 27TH.

WITH characteristic enterprise Mr. Robert Sydenham, Tenby Street, Birmingham, promoted an exhibition of vegetables, held in the large Mason Hall, on the above dates. Hitherto the prizes have been awarded in connection with the Birmingham Chrysanthemum Society's Show, but this season the connection was severed, and the show was, of its kind, such as had never been seen in Birmingham before. The judging was by "points," the same being notified on the exhibition cards, and the competition was remarkably keen.

Altogether prizes were offered in twenty-five classes, and the silver challenge cup, value £15, to be held for one year by the winner, and when he is successful in winning it a second time it will become his absolute property, was won in the open class by Mr. T. Wilkins, gardener to Lady Theodora Guest, Blandford. In addition to the money prizes for the separate dishes, there being no prizes offered for collections of vegetables, a watch or gold chain, value £3 3s., was added as a first prize to the winner of the cup. The second prize was secured by Mr. H. Folks, gardener to I. F. Halsey, Esq., Hemel Hempstead; the third to Mr. J. Read, gardener to the Earl of Carnarvon, Bretby Park; the fourth to Mr. W. Pope, Highclere Castle; and the fifth to Mr. Robert Lye, gardener to W. A. Kingsmill, Esq., Newbury. Exceptionally fine were the Onions, Carrots, Parsnips, Potatoes, Beet, Leeks, Cauliflowers, and Tomatoes in the open classes.

Prizes were also offered for local gardeners or amateurs residing within five miles of Stephenson Place, Birmingham, the competition being keen and the produce most creditable. The local silver challenge cup, value £10, fell to Mr. Samuel Gibbs, gardener to J. B. Manley, Esq., The Oaklands, Harborne, and the addition of a watch or chain, value £2 2s., as a first prize. The second prize went to Mr. F. Dunn, gardener to E. Edkins, Esq., Erdington; the third to Mr. A. Cryer, gardener to J. A. Kenrick, Esq., Berrow Court, Edgbaston; the fourth to Mr. George Stacey, Harborne; and the fifth to Mr. Palmer, gardener to G. S. Mathews, Esq., Edgbaston. A special certificate was awarded to Mr. H. A. Burberry, King's Heath, Birmingham, for a collection of Orchids. Mr. W. Sydenham, Tamworth, made a charming display of Pansies and Violas, and the enterprising promoter of the Show also staged an attractive exhibit with his rustic table decorations filled with miscellaneous flowers.

CHRYSANTHEMUM SHOWS.

EXMOUTH.—OCT. 27TH AND 28TH.

THE season being late, groups were not so numerous as formerly, five being the number instead of the usual eight or nine. The best was undoubtedly that arranged by General Roche, C.B. Magnificent flowers of Australian Gold, M. Chenon de Léché, Pride of Madford, and Belle Mauve were seen. Unfortunately the setting up was not of the best. The second prize was awarded to Mrs. Gresswell (gardener, Mr. Kingcote). In the semicircles, Col. Lloyd (gardener, Mr. Hitchcock), took the first for a nicely arranged group of plants, but the blooms were generally too dull, and preference was freely expressed for the second prize group, where the flowers were fresher and cleaner. This was shown by Henry Hodgson, Esq.

Cut blooms in the open classes were of slightly less weight than are usually shown at Exmouth, although the first prize stand included some fine flowers of Australia, Pride of Exmouth, M. Chenon de Léché, Werther, Mrs. Maling Grant, Simplicity, and Mutual Friend. H. Hammond Spencer, Esq., Glendarrah, Teignmouth, in the class for thirty-six Japs was the most successful, his gardener, Mr. Geo. Foster, carrying off the first prize; second, Rev. G. Lyon, The Grove, Teignmouth (gardener, Mr. Stiles), who exhibited splendid examples of Phœbus and Australian Gold; third, G. Furneux, Esq., Newton Abbot (gardener, Mr. Howard). For twelve Japs, Mr. G. Foster was again victorious, whilst Mr. J. Stiles was a close second. Twelve incurved, first, Rev. G. Lyon; second, Mr. Hammond Spencer.

In the local classes for twelve Japs, R. Gibbons, Esq., was first; second, Rev. H. Clerk (gardener, Mr. Pike). Six blooms, white, Rev. H. Clerk was awarded first for rather poor examples, much better blooms being shown by Mr. R. Gibbons in the class for six any other colour, the variety being Col. Smith.

Grapes were fairly well shown, Alicantes being staged by Rev. H. Clerk, Mr. G. Matthew, and John Gordon, Esq., whose exhibits were placed in order of names. The best Muscat of Alexandrias were shown by the last-named competitor. These were nicely coloured. Rev. H. Clerk second with larger bunches, but not so well finished.

For a collection of twelve dishes of Apples and six of Pears, the first prize was awarded to Richard Ley, Esq., J.P. (gardener, Mr. Ottoway). There were forty-one other classes allotted to fruit, and the principal prizewinners were A. F. T. Shapland, Esq., Miss Goldney, Miss Pinchney, John Gordon, Esq., Mrs. Forbes, Mrs. Stevenson, R. Ley, Esq., Rev. H. Clerk, and Mrs. Close. The table decoration classes were well competed for, the first prize being awarded to Miss Urquhart; second, Mrs. Sherston Baker. Several collections of vegetables contained good samples of Scarlet Runners. The Hon. Mark Rolle sent, not for competition, a group of well-grown Orchids, Crotons, and other stove plants; also a good collection of fruit, which included three very fine bunches of Alicante Grapes, Queen Pines, and well-finished Melons.

The head of the hall was occupied by an exhibit covering 600 superficial feet from the Exmouth Nurseries of Mr. W. J. Godfrey, and was comprised, as may be expected, of many fine examples of the newest Chrysanthemums. Blooms of Reginald Godfrey, Autumn Glory, President Bevan, and Le Grand Dragon were shown. The same grower sent two groups of the new decorative variety Ettie Mitchell, recently certificated by the N.C.S. and R.H.S., as well as cut Carnations, plants of Cannas, cut blooms of Cactus and single Dahlias, the whole being backed with Palms.

CROYDON.—NOVEMBER 1ST AND 2ND.

THE eleventh annual exhibition was held in the Public Halls. The challenge cup class appeared to monopolise the attention of exhibitors, though all the classes were well filled. We regret that the pressure on our space does not admit the details of the fruit and vegetable classes, which were very fine. Mr. W. B. Beckett, the indefatigable Secretary, worked hard to make everything as smooth as possible. Both the halls were filled to excess, and everything pointed to the success of the exhibition.

There were eight competitors for the challenge cup, value 25 guineas, and £4 added as first prize. It is needless to say the competition was exceedingly keen. Mr. M. E. Mills, gardener to F. Lloyd, Esq., Coombe House, Croydon, proved to be the victor, the stand was a very fine one throughout. The blooms were—back row: John Seward, Australie, Mad. Gustav Henri, M. Panckoucke, Lady Byron, Mrs. G. W. Palmer, Mad. G. Bruant, Jos. Brookes, John Seward, Mad. Gustav Henri, Australie, M. Panckoucke. Second row: Chas. Davis, Emily Silsbury, Edwin Molyneux, Mutual Friend, Phœbus, Emily Silsbury, M. Chenon de Léché, Mad. H. de Rocheterie, Sunflower, G. C. Schwabe, Edith Tabor, President Borel, Louise, Mrs. G. W. Palmer, Graphic, Royal Standard, Phœbus, Louise, Oceana, Elsie Teichmann, and Edith Tabor. Mr. H. Paddon, gardener to Col. Ricardo, Bramley Park, Guildford, second with capital blooms of Phœbus, C. B. Haywood, Lady Ridgway, Australie, Mrs. W. Mease, Primrose League, Graphic, and E. Molyneux. Mr. W. King gardener to J. Colman, Esq., Gatton Park, was third.

For a group of Chrysanthemums, 7 feet by 9, Mr. E. Dove, gardener to H. E. Fry, Esq., Bickley Hall, was placed first with a very good exhibit. Mr. C. Same, gardener to E. H. Cotes, Esq., Caterham, was second with a dwarfier group. Mr. C. Padley, Southbridge Road, Croydon, third. For six distinct plants of Japanese Mr. J. Salter, gardener to F. Link, Esq., Homedale Park, Croydon, was placed first with medium plants; Mr. G. H. Cooper, Nurseries, Sydenham Road, Croydon, was second; and Mr. F. W. Wright, Homesdale Road, third. There were four competitors for eighteen incurved blooms, not less than

twelve blooms distinct. Mr. H. Paddon secured premier honours with a very even stand. The varieties were Mrs. R. C. Kingston, Mons. R. Bahuant, Austin Canne'l, Globe d'Or, Baron Hirsch, Miss V. Foster, Empress of India, Princess of Wales, D. B. Crane, Golden Nugget, Lucy Kendall, and Lord Wolseley. Mr. W. King secured the second position with a weaker display, and Mr. C. Lane was third. Mr. E. Mills was again placed first for twelve Japanese, white, with a very even exhibit.

There was a strong competition in the class for eighteen Japanese, confined to the borough of Croydon, Mr. E. Mills again proving the victor with a very good exhibit. Mr. G. Prebble, gardener to M. Hodgson, Esq., Shirley, was second, and Mr. R. Gladwell, gardener to S. Smith, Esq., South Norwood, third. For twelve incurved varieties, distinct, Mr. J. Munro, gardener to J. L. Bucknall, Esq., Beckenham, secured first with even solid blooms. Mr. G. Prebble was second, and Mr. A. Dyer, gardener to F. Peacock, Esq., third.

Messrs. J. Cheal & Sons, Crawley, staged about seventy-five dishes of Apples and Pears, making a very noteworthy exhibit. Messrs. J. Laing and Sons, Forest Hill, staged a capital display of fruits, composed of 100 dishes of Apples, also a huge pyramid of fine fruits, topped by a crown of Crataegus Lelandi. The centre stage was also beautifully furnished by the same firm with a choice variety of foliage and autumn flowering plants. Messrs. J. Peed & Sons, Norwood, also staged a capital collection of Apples. Mr. J. R. Box, West Wickham, exhibited a good collection of Apples and Pears, also some single and double Begonias. Mr. N. Davis, Framfield Nurseries, exhibited some of Mr. H. Weeks' new seedlings, most of which have been already certificated by the N.C.S. The blooms were very fine, and will doubtless become very popular.

KINGSTON.—NOVEMBER 1ST AND 2ND.

ONE of the first of the metropolitan exhibitions was opened in the Drill Hall, Kingston, on Tuesday, but was not equal to many of the previous efforts of this important Society. Groups were not of particular merit, the cut blooms, with the non-competitive exhibits, forming the backbone of the Show. The cup class, in which such great interest has been taken for a number of years, was splendidly won by Mr. King in a keen contest between four growers. Baskets of Chrysanthemums were of average, and some good fruit was staged.

For the champion challenge vase, value 25 guineas, four competitors staged, and the contest between first and second was very keen. Mr. F. King, gardener to A. E. Perkins, Esq., Oak Deane, Holmwood, gained the premier position. His Japanese were John Seward, E. Molyneux, International, C. Davis, Mdle. Thérèse Rey, Australie (fine), Mrs. G. W. Palmer, Simplicity, Lady Hanham, Lady Northcote, Mrs. C. Orchard, Pride of Madford, G. J. Warren, Madame G. Bruant, Mrs. Mease, Phœbus, President Nonin, Mons. F. André, Oceana, Madame Carnot, Mary Molyneux, Edith Tabor, Robert Powell, and C. B. Haywood. Incurved—Ma Perfection, Ernest Cannell, M. P. Martignac, Lady Isobel, J. Agate, Mrs. F. Foster, Duchess of Fife, Baron Hirsch, C. H. Curtis (grand), Perle Dauphinoise, Mrs. N. Molyneux, Mons. R. Bahuant, Globe d'Or, Yvonne Desblanc, D. B. Crane (good), Jeanne d'Arc, J. Pearce, Empress of India, Brookleigh Gem, Lord Alcester, Miss M. A. Haggas, Robert Petfield, and J. Lambert. Mr. J. Hunt, gardener to Pantia Ralli, Esq., Ashted Park, Epsom, was an exceedingly close second; in fact his Japanese were many points above the first prize stand. Pride of Madford, Vivian Morel, Australie, Duke of Wellington, Phœbus, Mons. Panckoucke, E. Molyneux, Eva Knowles, and Lady Byron were excellent. The best incurved were Duchess of Fife, Baron Hirsch, D. B. Crane, Globe d'Or, and Madame Darier. Mr. C. Smith, gardener to Wilson Addison, Esq., Norbiton Place, Kingston Hill, was third, and Mr. J. Lock, gardener to C. S. Eady, Esq., Weybridge, fourth.

For twelve incurved, distinct, Mr. T. Caryer, The Gardens, Aldenholm, Weybridge, was well first with good blooms of Mr. T. Murray, Baron Hirsch, Madame Darier, Globe d'Or, and Violet Tomlin. Mr. T. French, gardener to Mrs. Barkley, Ambleside, Wimbeldon Park, was second. For six incurved, one variety, the first prize was awarded to Mr. F. King with Duchess of Fife; Mr. W. Brett being second with a finer stand of C. H. Curtis; and Mr. G. W. Forbes, gardener to Madame Nichols, Regent House, Surbiton, third with Brookleigh Gem.

In the class for twenty-four Japanese, distinct, Mr. J. F. McLeod, gardener to J. P. Morgan, Esq., Dover House, Roehampton, was deservedly awarded the first prize with a charming exhibit. The varieties comprised Lady Ridgway, Mons. Panckoucke, Col. W. B. Smith, Lady Oporto Tait, and Madame Ph. Rivoire, amongst others. Mr. F. King was second with best blooms of Australie, Mrs. Mease, Phœbus, C. B. Haywood, and E. Molyneux. For twelve Japanese, distinct, the prize went to Mr. S. Read; Mr. A. Smith, Roehampton, being a good second; and Mr. Caryer third. Six Japanese, one variety, first Mr. F. King with Mdle. Thérèse Rey; and second Mr. A. Smith, with the same variety. For twelve reflexed Mr. T. Caryer was first, and Mr. S. Read second. Five stands were staged in the class for twelve bunches of Pompons. Mr. Caryer was a good first, Mr. G. W. Forbes second, and Mr. J. Plowman third.

Local classes were well filled. For twelve Japanese Mr. G. F. Forbes was first with a grand stand; Mr. C. Smith was second, and Mr. S. Read third. For twelve incurved, distinct, Mr. G. W. Forbes was an easy first with C. H. Curtis, Prince Alfred, Baron Hirsch, and Brookleigh Gem as his best; Mr. C. Smith was second, and Mr. S. Read third.

Mr. J. Lock was first for a group of plants with a light arrangement of Orchids, Crotons, Bouvardias, Oncidiums, and Chrysanthemums. The second prize went to Mr. J. Hoskins, gardener to F. Salamon, Esq., Willowbrook, Hampton Hill, with a heavy but more appropriate group.

Third, Mr. T. H. Bolton, gardener to Mrs. Blacker, Coombe End, Kingston Hill. For four Japanese, distinct, bush grown, Mr. W. Brett, gardener to W. M. Campbell, Esq., Coombe Ride, Kingston Hill, was an easy first with Vivand Morel, Souvenir de Petite Amie, Col. W. B. Smith, and W. H. Lincoln. Second, Mr. S. Read, gardener to R. S. Bond, Esq., Surbiton.

Non-competitive exhibits were numerous and excellent, but space can only be found for a record of a few of the very finest. Miscellaneous collections of Chrysanthemums were sent by Mr. H. J. Jones, Lewisham, and Mr. W. Wells, Earlswood, both of whom were in capital form with cut blooms. Messrs. G. Bunyard & Co., Maidstone, contributed a grand collection of sixty dishes of Apples, while Messrs. J. Cheal & Sons, Crawley, were represented by some splendid Apples and Pears. However, the feature of the whole was the exhibit from Mr. S. Mortimer, Farnham. It is probable that Dahlias in such superb form were never previously seen at a November exhibition. There were 120 Show and Fancy blooms, and thirty-two bunches of Cactus varieties.

SOUTHAMPTON.—NOVEMBER 1ST AND 2ND.

THE annual autumn exhibition was held as usual in the Victoria Hall, and was a success. The competition in most classes was keen. Cut blooms formed the most important feature. The principal class was that for twenty-four Japanese. Five competed, making a pleasing display. Mr. H. N. Mose, Sholing, was distinctly ahead with a stand of medium sized blooms, beautifully fresh and fairly well staged. The leading varieties were Edith Tabor, E. Molyneux, E. Silsbury, Pride of Madford, Madame Carnot, Pride of Exmouth, M. Panckoucke, Lady Hanham, Duke of Wellington, N.C.S. Jubilee, President Nonin, Phœbus, Modesto, Van den Heede, Vivand Morel, and Charles Davis. Mr. Bowerman, gardener to Mrs. C. Hoare, Hackwood Park, Basingstoke, second with heavier blooms, not so shapely. Mr. G. Nobbs, gardener to Her Majesty the Queen, Osborne, I.W., was a close third.

Mr. Bowerman secured the leading award for eighteen Japanese with good blooms; Mr. Nobbs second. The last named was placed first for twelve Japanese with blooms leaving little to be desired. Mr. West, gardener to R. Wigram, Esq., Northlands, Salisbury, second. For twelve blooms, in eight varieties, Mr. Goss, gardener to W. G. Roy, Esq., Marshwood, was placed first with a stand of even blooms of leading varieties. Mr. Nobbs second. For six blooms Japanese, white and yellow, Mr. L. Dawes, Hambledon, won premier place with substantial blooms of Australian Gold and Phœbus. Mr. Goss second with excellent specimens of G. J. Warren and Phœbus.

Incurved blooms were poorly represented, Mr. Nobbs winning premier place with a fair stand. Amateurs staged in really a meritorious manner. Mr. H. H. Lees, 54, Cedar Road, The Avenue, Southampton, won for twelve and six Japanese with excellent examples of Mrs. Weekes, Mutual Friend, Pride of Exmouth, Edith Tabor, and Pride of Madford. Mr. E. Brown, jun., Hill Lane, Southampton, second.

Plants were not numerous staged, but were interesting, and lent themselves to the decoration of the hall in an effective manner. For a group of Chrysanthemums and foliage plants arranged in oval form five competed. Mr. J. Amys, gardener to Hon. Mrs. Elliott Yorke, Hamble Cliff, Netley, easily secured first position with a bright and pleasing arrangement. Mr. Hall, gardener to Sir S. Montague, South Stoneham, was a good second. For a Chrysanthemum group Mr. Bain, gardener to Mrs. Dickson, Shirley, was easily first with dwarf plants carrying good blooms. Mr. Hossy, gardener to C. D. Esterre, Esq., Elmfield Hill, second.

Fruit was well staged, and of good quality throughout. Non-competitive exhibits were a strong feature of the show. Messrs. Hillier and Son, Winchester, staged a grand lot of Apples. Mr. W. H. Roger Southampton, shrubs; Mr. Ladham, herbaceous plants and wreaths. The secretarial duties were, as usual, well carried out by Mr. C. S. Fuidge.

BLACKHEATH.—NOVEMBER 2ND AND 3RD.

THE eleventh annual exhibition of the Kent County Society was held in the Rink, Blackheath. The large classes of Japanese were the chief feature, though the majority of the classes were well filled. The fruit was also very good.

There were four competitors for a group of Chrysanthemums to occupy a space of 50 superficial feet. Mr. E. Dore, gardener to A. E. Fry, Esq., Bickley Hall, was first; Mr. A. W. Hollands, Lee Park Nursery, was second; and Messrs. Pollard Bros., Wantage Road, Lee, third.

There were four competitors in the premier class for eighteen incurved, and the same number of Japanese. Mr. T. Robinson, gardener to W. Lawrence, Esq., Hollingbourne, was first. The Japanese stand was very strong. The varieties were Pride of Madford, Madame G. Henri, Ella Curtis, W. Wright, Mrs. J. Lewis, Eva Knowles, Mrs. Weeks, J. Seward, J. Bidencope, M. Panckoucke, Australie, Simplicity, N.C.S. Jubilee, Madame Bergier, Sec. Fieriens, Madame Carnot, Mons. G. Biron, and Soliel d'Octobre. The incurved were Yvonne Desblanc, Miss V. Foster, J. Lambert, Mons. R. Bahuant, Leonard Hayes, Ma Perfection, Queen of England, Miss Haggas, Alfred Salter, J. Kearn, Topaze Orientale, Lord Wolseley, C. H. Curtis, Mr. J. Murray, Golden Empress, Globe d'Or, Empress of India, and Golden Nugget. Mr. C. Payne, gardener to C. J. Whittington, Esq., Bickley Park, was second with a very even display of incurved blooms, but the other section was decidedly weaker; and Mr. J. E. Pool, gardener to A. G. Hubbuck, Esq., Chislehurst, third.

In the class for twenty-four blooms, eight each of Japanese, incurved and reflexed, Mr. J. Lyne, gardener to H. F. Tiarks, Esq., Chislehurst,

was first with an even exhibit. The most noteworthy flowers were Mrs. H. Weeks, R. Powell, Mrs. C. H. Payne, Australian Gold, Duchess of Fife, Mrs. S. Coleman, Mad. Darier, Dorothy Gibson, Florence Lunn, and Amy Furze, and Mr. J. E. Poole was second.

There was a good competition for twenty-four Japanese, distinct. Mr. H. Hurst, gardener to W. T. Holland, Esq., Bexley, was first with the following varieties: Simplicity, Robert Powell, Pride of Exmouth, Eva Knowles, Lady Byron, Reine d'Angleterre, Mrs. G. W. Palmer, Australie, Jas. Bidencope, Vivand Morel, Sunflower, Père Francoun, E. Molyneux, C. Davis, Madame Gustave Henri, Lady Ridgway, Duke of Wellington, Thérèse Rey, N.C.S. Jubilee, G. C. Schwabe, Hairy Wonder, Eva Prass, Phœbus, and Matt. Hodgson. Mr. J. Blackburne, gardener to J. Scott, Esq., Chislehurst, was second, and Mr. C. Dann, Springfield, Maidstone, third.

For twelve Japanese, distinct, Mr. H. Hurst was first with an even dozen. The blooms were John Seward, Lady Byron, Robert Powell, Australie, V. Morel, Mrs. G. W. Palmer, Madame Gustave Henri, C. Davis, Jas. Bidencope, N.C.S. Jubilee, Sunflower, and G. C. Schwabe. Mr. J. Lyne was second; Mr. C. Dann was third.

For twelve incurved varieties, distinct, Mr. T. Osman, gardener to L. J. Baker, Esq., Chertsey, was first with a medium stand. The best flowers were Chas. H. Curtis, Mons. R. Bahuant, Madame Darier, and Prince Alfred; and Mr. J. Lyne second.

For six blooms Japanese, coloured, Mr. C. Dann was first with a superb six of Col. W. B. Smith. Mr. T. Osman was second with Madame Marius Ricoud, and Mr. E. Russell third with Edith Tabor. For six blooms Japanese, white, Mr. T. Osman was first with Mutual Friend. Mr. D. Spink, gardener to H. B. Hohler, Esq., Fawkham, was second with Lady Byron; and Mr. G. Russell third with Emily Silsbury.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, exhibited a pretty group of Chrysanthemums, Begonia Gloire de Lorraine, Palms, and Crotons. Messrs. G. Bunyard & Co., Maidstone, staged about a hundred dishes of Apples and Pears. Messrs. J. Laing & Sons, Forest Hill, also contributed a display of Apples.

CHRYSANTHEMUM SHOWS.

As is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the coming season. Space, however, can only be found for mentioning those that have been advertised in our columns. We append the dates of such fixtures, with the names and addresses of the various secretaries.

Nov. 2nd and 3rd.—ASCOT.—Henry C. Needham, The Glen, Ascot.

„ 2nd and 3rd.—WOLVERHAMPTON.—J. H. Wheeler, Glen Bank, Tettenhall, Wolverhampton.

„ 3rd and 4th.—MAIDENHEAD.—J. W. Stone, Cookham Dean, Maidenhead.

„ 4th and 5th.—BATTERSEA.—J. O. Langrish, 167, Elsley Road, Battersea, S.W.

„ 7th.—ST. NEOTS.—Wm. Ratchelous, St. Neots.

„ 8th, 9th, and 10th.—BIRMINGHAM.—J. Hughes, Harborne, Birmingham.

„ 8th, 9th, and 10th.—ROYAL AQUARIUM (N.C.S.).—R. Dean, Ranelagh Road, Ealing.

„ 8th, 9th, and 10th.—HIGHGATE.—W. E. Boyce, Highgate.

„ 9th and 10th.—BROMLEY.—W. Weeks, 29, Widmore Road, Bromley.

„ 9th and 10th.—HANLEY (Staffs.).—J. and A. Kent, Hanley Park.

„ 9th and 10th.—LIVERPOOL.—Dickson and Sadler, 7, Victoria Street, Liverpool.

„ 9th and 10th.—CARDIFF.—H. Gillett, 66, Woodville Road, Cardiff.

„ 9th and 10th.—BOURNEMOUTH.—J. Spong, Lindisfarne Gardens, Bournemouth.

„ 10th.—WALTON AND WEYBRIDGE.—G. Masters, Walton Road, East Molesey.

„ 10th.—WINDSOR.—Secretary, Chrysanthemum Society, Windsor.

„ 11th and 12th.—ALTRINCHAM.—E. C. Moore, 22, Railway Street, Altrincham.

„ 11th and 12th.—HUDDERSFIELD.—J. Bell, Marsh, Huddersfield.

„ 11th and 12th.—ECCLES.—H. Huber, Hazeldene, Winton, Patricroft.

„ 11th and 12th.—BRADFORD.—R. Eichel, 16, Westcliffe Road, Shipley.

„ 11th and 12th.—DERBY.—J. H. Bell, Normanton Road, Derby.

„ 11th and 12th.—SHEFFIELD.—W. Housley, 28, Joshua Road, Sheffield.

„ 15th and 16th.—WINCHESTER.—C. Shenton, Winchester.

„ 15th and 16th.—BELFAST.—J. MacBride, Victoria Square, Belfast.

„ 15th and 16th.—BRIGHTON.—Secretary, 1, Dyke Road Drive, Brighton.

„ 15th and 16th.—LEEDS.—James Campbell, The Gardens, Methley Park, Leeds.

„ 16th and 17th.—BIRKENHEAD.—W. Bassett, 23, Grove Road, Rock Ferry.

„ 16th and 17th.—HULL.—Harland and Dixon, Hull.

„ 16th and 17th.—RUGBY.—W. Bryant, Rugby.

„ 16th, 17th, and 18th.—BRISTOL.—Edwin J. Cooper, Mervyn Road, Bishopston, Bristol.

„ 16th, 17th, and 18th.—YORK.—J. Lazenby, 13, Feasegate, York.

„ 18th and 19th.—BOLTON.—J. Hicks, Markland Hill Lane, Heaton, Bolton.

OUTDOOR FIG CULTURE.

(Concluded from page 268.)

PROTECTION.

TREES against walls require protection against severe frosts. The leaves seldom die naturally, but are cut off by the early autumn frosts, and before the recurrence of keen weather the branches must be protected. Usually the frosts are not sufficiently severe to injure the Fig tree before the early part of December. The old gardeners, or some of them, seldom bothered their brains about removing the incipient Figs in the autumn, but simply unnailed the branches, collected them in bundles, covered these with clean dry straw, and made all snug by a wrapping of mats. The greatest care was taken to secure the safety of the stem or stems at and to the ground. This protection remained on until the end of February or beginning of March, when the bundles were loosed, the straw removed, and the matting only left. In April the trees were gradually exposed, and then they were pruned, as then the young buds had begun to swell, and wood of a proper character distinguished from that which was useless. Some, however, removed all the fruits as large as a horse bean at the end of October or early in November, under the impression that they robbed the trees and were sure to perish.

I have given what I consider the better practice as regards the second crop Figs, and also the procedure of different practitioners, and shall insist upon nothing but protection in all except favoured places in the south of England and on the seaboard in other localities. Spruce branches fastened in front of the trees, commencing at the bottom of the wall, and proceeding upwards so as to form a sort of thatch answers well, as the leaves drop off towards the spring, when needing less protection. Other material may be utilised, Fern being excellent, also thatched hurdles and straw mats. Care must be taken to protect the main stem, otherwise it is useless covering the branches. It is seldom that the Fig requires protection in the spring, as growth rarely begins before May, when the embryo Figs start almost simultaneously with the shoots. If necessary mats may be suspended in front of the trees on frosty nights after the branches are adjusted to the wall.

ROUTINE.

Except when fruitful and in restricted rooting area Fig trees do not require top-dressings of partially decayed manure to any great extent. I think the trees stand frost better when mulched over the roots with rather littery material early in December, removing the rough in the spring, not leaving more than a couple of inches thickness of the shortest. This may be added to from time to time during the summer, but not increasing the thickness, in order to assist the trees in dry periods to swell their crops. To aid still more the trees may receive a small handful per square yard of the following mixture when starting into growth, and again about the middle of July:—Dissolved bones, dry and crumbling, five parts; nitrate of potash, powdered, one part; sulphate of magnesia, quarter part; and chloride of soda, quarter part, mixed. A small handful equals about 3 ozs.

Only in dry seasons is water necessary, and then only when the roots are in relatively dry positions, then adequate supplies must be given as required. A few good waterings will usually be all that is required, and should cease, as a rule, by or before the fruit commences ripening. I have seldom found it necessary to syringe Fig trees outdoors as preventive of or need to free them from red spider; but there may be exceptional cases, when, of course, it should be practised.

Fig trees are prone to casting the fruit. I do not consider that it arises from imperfect fertilisation, but from poverty or unripe wood. The close pinching rather inclines to this view. Get the wood well matured at the points of the shoots, and they will generally swell the first crop of fruit. The retention of the second crop Figs certainly takes some otherwise stored water from the Fig buds, therefore rub them off as they form in August, or later, if they attain the size of horse beans. Buds that do not become large are likely to remain as formed over the winter and develop the following summer into luscious fruits.

When ripening the fruit should be kept as dry as possible, and safe from birds. Wide eaves projecting from buildings throw off much wet, and glass copings do the same for walls. I consider Figs like old-fashioned places—abbeys, castles, manor houses, episcopal palaces—the lime of the walls, their warmth, shelter of the eaves, and care of the proprietors. Hexagon netting in front of wall trees excludes both birds and predatory insects. An excellent practice is to enclose each fruit in a muslin bag secured to the branch, which protects the fruit and prevents its falling. This plan answers well for the fruits of standard trees.

In favourable situations very handsome effects are produced by Fig trees as standards. Avenues of Figs may be a dream, but I picture them in some of the south coast resorts. Plant 20 feet apart and let the trees grow. In shaping the tree three limbs placed well around the stem are enough. The branches putting out on the under side of these main limbs should be suppressed, and those

growing obliquely upright retained. The head will mostly frame itself, but due regard must be had to checking exuberant growths by pinching, both to secure requisite shoots and to effect an equally balanced and symmetrical shape.

After the general shape of the tree has been fixed, there is little need of pruning, except to remove branches which cross and interfere with each other. The trees usually grow very compactly in firm soil, and are hardy and fruitful in proportion. Thinning out old growths must be performed carefully, never so excessively as to result in a quantity of long-jointed watery spray, and any trees growing too freely should be root-pruned so as to render them sturdy.

The dwarf trees are best with clear stems, as before noted, and with about three branches for a start. They can be pinched at about the fifth or sixth leaf, and subsequent growths at the same amount of growth, but not after the end of August. In that way very compact little trees may be had, and lifted annually, if too luxuriant, they soon come into bearing. The principle to act upon is root restriction, as well as that of branch limit, keeping the head almost as compact as a standard Bay tree, but with the branches so far apart and so disposed as to let the sun shine on every leaf and fruit to a greater or lesser extent, and all have an equal share. Such trees might be seen in many gardens, as they are now under glass, all under the eye, and be so kept for an indefinite period by cutting back straggling branches to successional shoots. All they need is a suitable situation—there are many in the south of England—a well-drained calcareous soil, and protection from unusually severe frost. How easy to lift them and winter in cellars like Dahlia, and place in the summer quarters early in May? In many places they could be easily protected over the roots and branches in their permanent quarters, and the wholesome fruit had in due season.—G. ABBEY.

ONIONISM.

I AM of the opinion that Mr. W. Pea (page 201, September 15th) is quite correct in saying that there is a new cult developing, the name of which is Onionism. Onion growing for large bulbs is becoming more popular year by year; for instance, in my particular locality in Kent several gardeners are growing large bulbs, also amateurs and cottagers. It seems to be the cottagers' ambition to be well abreast of professional gardeners at shows. They are striving in the right way, and succeeding to a remarkable degree. A good Onion bed is the pride of the garden, and for general utility there are few vegetable crops of greater importance or more in daily request than that of the Onion.

For growing large specimens, Mr. Bond selects the best open position available in the kitchen garden. The soil is rather heavy working. The trenching of the ground is usually taken in hand in October. Manures from the cow stable, piggery, and scrapings from poultry yards he considers powerful and good. The autumn trenching is done three spits deep, the third spit being left in the bottom, with a thick layer of manure spread over it; another good layer between the next two spits, and so on until the work is completed. Nothing more is done to the ground until the middle of January; then, if the weather is dry and the soil in good condition for working, a liberal dressing of burnt ashes, soot, lime, and some kind of artificial manure mixed together is applied to the surface and lightly forked in. Another dressing is given in February or March, and scuffled or well raked in. After this nothing is done to the land till the time arrives for planting.

"W. S., *Wilts*," observes (page 244), "Both Mr. Pea and his friend must needs find some qualification for this continuous tillage among those who have a heavy soil to reckon with, for I fear in their case this scuffling and worrying, if carried out, would lead them into difficulties." I wonder what difficulties? The first year Mr. Pea's friend grew bulbs turning the scale at 2 lbs.; this year with the same treatment he had a splendid bed of Ailsa Craig ranging from 2 to 2½ lbs. per bulb, also fine specimens of Lord Keeper, Coconut, and Cranston's Excelsior. The work of scuffling through some of the dry winter months with the application of wood ashes, soot, and lime, instead of leading to "difficulties," has given excellent results. By the action of the air and the soil moisture the evenly applied mineral substances are dissolved ready for absorption by the roots of the plants. Where the soil is rich in humus the lime acts on the vegetable matter, and increases the soil's productiveness to a remarkable degree. The ingredients prescribed also prevent to a great extent the attacks of insects.

It is a well-known fact that from the time the plants were put out in April until the bulbs were harvested in September they were entirely dependant on rain from the clouds in one of the driest parts of the kingdom. No water, either clear or in the form of liquid manure, was given to them artificially. Under high liquid feeding it is reasonable to suppose that many of the bulbs would have reached the weight of 3 to 3½ lbs. each, and one of the "difficulties" that

suggests itself to me is that of "W. S." putting a dozen of them into his pockets and tripping lightly away with them to a show.—BEGINNER.

[A "beginner" in "Onionism" possibly, but an experienced and successful gardener certainly, who records one more demonstration of the value of deep culture and soil enrichment in mitigating the effects of severe and prolonged drought.]

ALDENHAM HOUSE.

THIS, the charming residence of Lord Aldenham, is situated some fifteen miles from London and two miles from Elstree station on the Midland Railway. The park is extensive, and finely-studded with magnificent trees, and the gardens are highly cherished and admirably managed. When Mr. Edwin Beckett took charge of them in 1884 their extent was only 20 acres, now the area covered is 100. Lord Aldenham is a great admirer of hardy trees and shrubs, and knows them thoroughly. His lordship's talented son, the Hon. Vicary Gibbs, M.P., the popular member for St. Albans, inherits his father's love of trees and gardening. This gentleman is a born landscapist, and possesses intimate knowledge of trees and their requirements, and with the aid of Mr. Beckett has carried out extensive improvements during recent years.

At the present time a lake 7 acres in extent is being remodelled, made interesting with rockeries, a bridge and islands, and many acres surrounding are being effectively planted with the choicest of shrubs and trees. The pleasure grounds are kept in the best of order, reflecting much credit on Mr. Beckett and his able foreman. Words of praise are also due to Messrs. Pulham & Sons, the famous rockery builders, who have so admirably carried out Lord Aldenham's wishes in artistic work for several years.

HARDY SHRUBS AND TREES.

If Aldenham excels in one point more than another, it is in its magnificent collection of hardy trees and shrubs. It must be one of the most complete to be found in any private garden. Many of the choicer kinds are planted in hundreds. While Mr. Vicary Gibbs is a keen yet judicious collector of rarities, imposing effects are produced by massing such shrubs as *Spiræa Douglasi*, *Rhus cotinus*, *Cornus variegata*, and the Red Dogwood in beds 20 yards long and 12 yards wide. How much better is this than the mixed or "spotty" system of planting, so often carried out with the idea of having variety. *Rosa rugosa*, white and red, furnished with huge clusters of its coral red fruit, had a charming appearance, with a surrounding of densely green grass. *Berberis Jamesoni* in bold groups is attractive twice yearly—when in bloom, and again by the glow of the autumn tinged foliage; and Golden Privet, in a mass by the water's edge, was most effective. *Rubus biflorus* with its white stems. *R. fruticosus fl.-plena*, *Cornus Spathi variegata*, *Rubus canadensis*, *Fuchsia Riccartoni*, Spanish Gorse, Rose Bengale Hermosa, and the Japanese Wineberry are all worthily represented.

Amongst kinds not generally regarded as "common," *Carpenteria californica*, growing against a south wall, gives promise of success. A remarkably fine plant of the Coral tree—*Erythrina crista-galli*—at the foot of an east wall has for the last twelve years given 2 feet of flower spikes in abundance in their season. *Comptonia asplenifolia*, with its deep green and serrated foliage, should be more freely planted than at present. *Amelanchier canadensis* is the latest of flowering of the *Mespilus* tribe. The Purple Peach is noteworthy for its rich leaf colouring in the spring. *Chimonanthus fragrans* in bushes 4 feet diameter must be delightful when in bloom in the early spring. *Caryopteris Mastacanthus sinensis* somewhat resembles *Ceanothus azureus* in appearance. *Broussonetia papyrifera*, with its large Fig-like leaves, is a striking object. The glaucous foliage of *Salix serisia pendula* contrasts well with its surroundings. *Cytisus Andreanus* is grown in quantity. The scarlet Peach, *Amygdalus persica magnifica*, deserves the attention of planters of beautiful spring flowering trees. The Golden Poplar grafted on the Lombardy, and closely pruned annually, is by its free growth and golden foliage a striking object in the shrubbery. The Weeping Elm—*Ulmus Petersi pendula*—succeeds as a standard. *Cotoneaster Roylei*, with its weeping habit and purple berries, demands attention. The variegated Snowberry Tree—*Symphoricarpos vulgaris variegata*—must be seen to be admired, as it is here in quantity. *Berberis stenophylla*, quite one of the best of the Barberries, is effectively employed. The golden-leaved Tulip Tree—*Liriodendron tulipiferum aureum*, is conspicuous, as is *Ailanthus glandulosa pendula*, with its massive leaves a yard in length; so is the pendulous form of *Robinia inermis*. The deeply cut leaves of *Sambucus racemosus foliis aurea* is quite distinct from the ordinary form of Golden Elder. Sufficient space is provided for all to grow and develop freely. Judicious pruning is adopted of the vigorous growing kinds to keep them in shape and for the protection of the weaker.

Waterfalls, lakes, and rockeries are numerous, and with their surroundings form a beautiful feature. Suitable hardy plants have been chosen for their positions, such as the various forms of *Polygonum sachiliense* and *P. cuspidatum*, which tower above the projecting rockeries in masses 8 feet in diameter. *Poa aquatica*, *Eulalia zebrina*, and *Cotoneaster Wheeleri*, with its dark green foliage and purple stems, is one of the showiest of plants, especially during the winter. A collection of the various coloured Water Lilies is being established, and will prove a distinct source of attraction. Many other noteworthy objects might be named, but space is too limited to describe more in this department.

THE FLOWER GARDEN.

The flower garden, represented in fig. 59, is one of the charms of Aldenham—a wealth of flowers, with harmony in colours and diversity

in habit and variety, combine to form a pleasing effect. Fibrous and tuberous Begonias are much appreciated, and no wonder, judging from the freedom of flowers covered with the luxuriance of growth. In the former section Coral Gem, Duchess of York, Snowflake, and Fairy Queen are particularly noteworthy. The tuberous varieties grown are above a carpet of *Alternanthera*—a much admired combination. Fuchsias in masses are favourite summer garden flowers, Lye's Own, with its white sepals and red corolla and deep green leaves being very showy. *Calceolaria amplexicaulis*, a mass 4 feet high in a circular bed, showed this old-fashioned bedding plant off to perfection. Several gorgeous beds of "Geraniums" Henry Jacoby and Kingsbury Pet met the view, also a study in ribbon planting, a long border being furnished in that once familiar way.

A wide semicircular border, 50 yards long, filled with sub-tropical plants, with tall evergreen shrubs at the back, was a feature not soon to be forgotten. The luxuriance of *Nicotiana affinis*, *N. colossus*, and *N. glauca* were thoroughly represented. *Solanum pyracantha*, *Salvia argentea*, *Cannabis gigantea*, *Abutilons*, gold and silver leaved, *Lavatera arborea variegata*, *Melanthus major*, *Wigandias*, and various forms of *Ricinus* made collectively a grand display. One of the most interesting plants was Marvel of Peru in groups near the front; the flowers are remarkable for their varied colours, and are very sweet in the evening. A group of Cannas in twenty of the best bedding varieties imparted brightness to this noble border.

In close proximity a large oval-shaped bed filled with *Lobelia cardinalis* Firefly, carpeted with *Gazania splendens variegata*, was a grand sight. Mention must not be omitted of the collection of Michaelmas Daisies, which number 110 distinct varieties, and fill an undulated winding border 80 yards long and 15 feet wide. The effect of such a mass of blossoms can easily be realised when viewed from a coign of vantage. The Rose garden contains plants in vigorous growth, and they produce blooms abundantly. The collection of herbaceous plants is thoroughly representative, including as it does practically all kinds that are found in gardens for affording flowers over a long period of the year.

THE GLASS DEPARTMENT.

In this section ample provision is made for the growth of fruit and flowers to supply the wants of the family, and high-class management is apparent everywhere. Peaches and Nectarines are admirably grown. The foliage was the picture of health, ample space being given to the branches. The fruits were abundant and fine. Sea Eagle, Violette Hâtive, Late Admirable, and Noblesse are the principal varieties. Lord Napier and Pineapple Nectarines are the favourites. Mr. Beckett does not find the fruit of the last-named variety to shrivel prematurely as it is rather prone to do, and he attributes its firmness to an abundant supply of water at all stages of growth.

Grapes consist of such varieties as cannot well be dispensed with in a large establishment. They include Muscat of Alexandria, Alicante, Gros Maroc, Gros Colman, and Lady Hutt, the last-named being thought well of as a late keeping variety. In all cases the bunches were of a useful table size. Late Melons and Cucumbers in frames were carrying heavy crops of fruit. Tomatoes under glass are largely grown, the yellow fruiting variety, Royal Jubilee, being considered a grand acquisition both for its good shape and excellent flavour. Strawberries to the extent of 1500 are grown in pots, the varieties being Stevens' Wonder, Royal Sovereign, Sir J. Paxton, and Vicomtesse Hericart de Thury. In the Fig house there is a grand tree of that serviceable variety Brown Turkey, which gives annually crops of fine fruit.

The plants are mainly of the decorative order. Large numbers are required when the family are in their town residence, therefore Mr. Beckett grows what are most suited for such work. Crotons are a feature: single stemmed plants from 1 foot to 3 feet, densely clothed with richly coloured foliage are unsurpassed for evening parties. In addition to the established favourites, such as Queen Victoria and others, some newer varieties are grown. Lord Wolseley, yellow; Reidi, short, broad leaves, extremely rich, red, green, and flesh tinted, a distinct novelty; Mdle. de Bondney, yellow and green; and Gordoniensis, were among the more striking. Clivias are found extremely useful. About four dozen plants of the best varieties are grown. Some plants, a yard across, of *Cœlogyne cristata* and *C. c. alba* are pictures of health, and *Bouvardias* grow luxuriantly. Tuberose are in great demand, while *Streptocarpus*, from 2 feet to 3 feet in diameter, must have been a fine sight when in full beauty. Poinsettias, ranging from 6 inches to 2 feet high, were the picture of health. Cyclamens are much better grown here than in many private gardens. Chrysanthemums, to which only a passing reference can be made, are splendid. About 600 plants are cultivated for large blooms, consisting of all the new and desirable varieties, and justice is done to them, as is evident by the robust foliage and handsome blooms.

THE KITCHEN GARDEN.

No person could inspect the magnificent crops in this department without admiration. Attention was irresistibly drawn to a bed of 1000 Onions, every bulb of first-class exhibition quality. Ailsa Craig, the newer Ne Plus Ultra, and Cranston's Excelsior were the principal varieties. That Celery is well grown the splendid exhibit at a recent meeting of the R.H.S. afforded ample testimony. Leeks are grown equally well. Amongst Potatoes Satisfaction, Snowdrop, and Windsor Castle are spoken highly of. Carrots are usually strong in Mr. Beckett's collections, and he finds New Intermediate is difficult to excel. The same opinion is expressed on Veitch's Autumn Giant Cauliflower. Among Peas Autocrat finds much favour as a late variety. Taken as a whole the kitchen garden is a model of good culture and cleanliness.—E. MOLYNEUX.

Messrs. J. & A. Hopkin's,

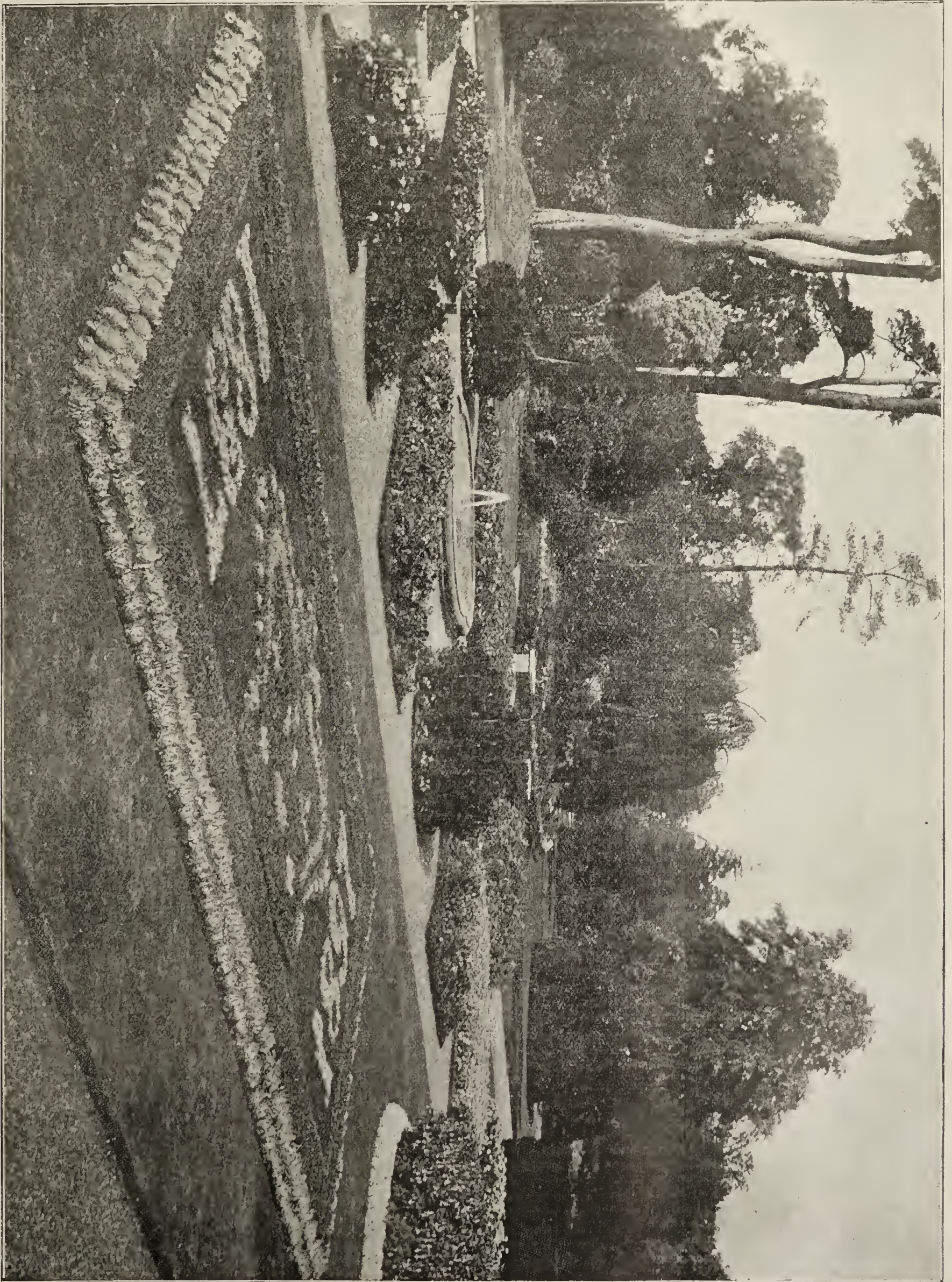


FIG. 59.—VIEW IN ALDENHAM FLOWER GARDEN.

Photographers, Hodgeson.



LONDON PARKS.

BATTERSEA PARK.

THIS collection is always popular amongst the residents in the district, and large numbers of visitors are constantly passing through the house where the Chrysanthemums are staged. Japanese varieties of Continental origin are fairly numerous, and include *La Triomphante*, *M. William Holmes*, *M. C. Molin*, *Brise du Matin*, *President Borel*, *Madame Ed. Rey*, *Louise*, *M. Chenon de Leché*, *Mdlle. Thérèse Rey*, *Madame Carnot*, *Australian Gold*, *L'Ami Etienne*, *Hamlet*, *Comte F. Lurani*, *Ed. Audiguier*, *Val d'Andorre*, *Bouquet des Dames*, *Mdlle. Lacroix*, and *Charlotte de Montcabrier*.

Chrysanthemums of English and American origin include some very good examples of *James Salter*, *Lady Selborne*, *A. H. Fewkes*, *J. H. Runchman*, *Sunflower*, *Gloriosum*, *W. H. Lincoln*, *Edith Tabor*, *Modesto*, *John Shrimpton*, *William Seward*, *Edwin Molyneux*, *G. W. Childs*, *W. Tricker*, *Florence Davis*, *Puritan*, *Eda Prass*, *Mrs. H. Weeks*, *Lady Byron*, *Good Gracious*, and the newer *Lady Hanham*. For brightness of colour, especially in the front of the group, very free use is made of such highly coloured varieties of crimson shades as *G. W. Child*, *M. William Holmes*, *John Shrimpton*, and the old *Jeanne Délaux*. In Anemones there are *M. Charles Lebocqz*, *Descartes*, and *Delaware*. Incurved are numerous, and the mention of a few will be sufficient to show the value that may be attached to this group. They are *Golden Empress of India*, *Empress of India*, *Mrs. W. Shipman*, *Baron Hirsch*, *Golden George Glenn*, *Lord Alcester*, *John Lambert*, *Queen of England*, *Mrs. Robinson King*, *John Doughty*, *Princess of Wales*, *Jeanne d'Arc*, *Globe d'Or*, *Reinogens*, *Mr. Bunn*, *Alfred Salter*, *C. H. Curtis*, and *Princess of Teck*. Hairy varieties receive a somewhat smaller share of recognition, the only prominent ones being *Louis Boehmer*, *Hairy Wonder*, *Beauty of Truro*, *Esau*, *Mrs. Alpheus Hardy*, *Spartel*, and *Mrs. Dr. Ward*. The collection is a great credit to *Mr. F. Coppin*, the superintendent, and his assistants.

FINSBURY PARK.

Although our visit to this collection was the first one of the season, and only a few days after the opening, it was gratifying to find the plants in a forward condition and mostly carrying some well-developed blooms. The greenhouse in which the plants are staged is near the Manor House entrance, and contains a prettily arranged bank of Chrysanthemums in sloping and undulating form. Some of the varieties are grown in considerable quantity, no doubt the result of *Mr. Melville's* previous experience. *Emily Silsbury*, *Mrs. E. G. Hill*, *Mrs. C. Harman Payne*, *Louise*, *M. Freeman*, and *Mr. C. E. Shea* are among those that seem to be the most freely used.

Taking individual blooms, we noticed among some of the best, *Australie*, *Mastic*, a flat reflexing Japanese, colour pale ochre yellow; *Descartes*, *Mrs. C. Harman Payne*, *La Triomphante*, and *Marquis de Paris*, a large white Japanese with a faint greenish centre; *Gorgeous*, an incurving golden yellow Japanese; and *Mr. C. E. Shea*, the pale yellow sport from *Mdlle. Lacroix*, were conspicuous by the excellence of their culture. Other varieties in fairly good form comprise such well-known sorts as *Werther*, *Mons. Panckoucke*, *Mons. R. Bahaunt*, *Bouquet des Dames*, *Souvenir de Petite Amie*, *Emily Silsbury*, *Mrs. W. H. Weeks*, and several others in the same colour. *Louise* maintains a foremost position as a useful dwarf front row flower for such groups as we see at the parks.

Brighter shades of colouring are to be found in *President Borel*, *William Seward*, *Préfet Robert*, *Edouard Audiguier*, *Triomphe du Nord*, and *Baron Hirsch*. It is only possible to mention just briefly some of the many other sorts, and of these *Australian Gold*, *N.C.S. Jubilee*, *Source d'Or*, *L'Ami Etienne*, *Mons. Chenon de Leché*, *Marjory Kinder*, *Hairy Wonder*, *Phœbus*, *Edith Tabor*, and *Mrs. E. G. Hill* merit special attention. We noticed that *M. Freeman*, a pretty dwarf incurving pink Japanese, is employed as a front row plant with good effect, and in pinks *Charlotte de Montcabrier* and *M. Tarin* always seem to find favour in the metropolitan parks.

SOUTHWARK PARK.

The collection in Southwark is housed in a T-shaped structure close to the Gomm Road entrance, and just now is in a forward condition and ready for public inspection. The plants are well arranged, and are interspersed with Palms, Araucarias, Ferns, Ficus, and Dracenas, which lend a charm to the excellent display provided by *Mr. Curle*.

Incurved are grown, and several good blooms of *C. H. Curtis*, *Baron Hirsch*, *Mons. R. Bahaunt* are coming on well, while the Queens,

the Rundles, Beverleys, *D. B. Crane*, *Lord Wolseley*, *Prince Alfred* are among the best in this group. Hairy varieties are not so numerous as they were a few years ago; but in one corner of the greenhouse, *Enfant des Deux Mondes*, white; *Esau*, *Dr. Ward*, *Mrs. W. H. Caldwell*, *Louis Boehmer*, *Prima Donna*, *Sautel 1893*, *F. Bertin*, and *King of the Hissutes* are grouped.

Varieties of Continental origin in the Japanese section comprise *Gloire de Mezin*, a globular golden bronze of deep tone and early; *M. Demay Talandier*, *Commandant Blusset*, *Préfet Robert*, *Gambetta*, a beautiful golden reddish terra cotta, with a reverse of old gold; *Charlotte de Montcabrier*, pale pink; *La Triomphante*, *Vivian Morel*, *M. C. Molin*, *M. Georges Biron*, *Madame Carnot*, *M. Panckoucke*, the very effective golden bronze *Source d'Or*, and the deep rosy pink *N.C.S. Jubilee*.

American seedlings come in for a fair share of recognition, the best being *G. W. Childs*, *Mrs. E. G. Hill*, *Gloriosum*, *Inter-ocean*, *W. Tricker*, and *Puritan*. Still confining our remarks to the Japanese section, home raisers are represented by *W. Seward*, *Gloire du Rocher*, *Marjory Kinder*, *Edith Tabor*, *Mr. C. E. Shea*, *Sunflower*, *H. Shoesmith*, *Lady Byron*, *Emily Silsbury*, *Mutual Friend*, *Fair Maid of Guernsey*, *Mrs. C. Blick*, *Elaine*, *Lady Selborne*, and a few others. Several of the Anemone section are grown, chief of which is the very bright and useful *Descartes*. *Mdlle. Elise Dordan* attracts considerable attention by its pretty little pink globular blooms.

VICTORIA PARK.

Mr. J. W. Moorman is an enthusiastic and successful cultivator of the Chrysanthemum, and the collection under his charge at Victoria Park, although not yet at its best, will certainly repay a visit. The house in which the plants are staged is about 100 feet long by 25 in width. There is a sloping bank down each side, and a central path for the visitors. While Japanese predominate, there is a sprinkling of incurved. In the group we noticed some pretty plants of *Mdlle. Elise Dordan*, and several bush plants of *Ryecroft Glory* and *Emily Silsbury*. In fairly good numbers are to be seen such well-established varieties as *Mons. R. Bahaunt*, deep and solid; *Margory Kinder*; *Louise*, very fine; *Baron Hirsch*, finely incurved and very rich in colour; and *President Borel*, another useful highly coloured variety, and early.

Among Japanese of Continental origin *Vivian Morel*, *La Triomphante*, *Mrs. C. Harman Payne* in the pinkish shades are noteworthy, while yellows are rather better represented by such as *Australian Gold*, *Globe d'Or*, *Amiral Avellan*, *Phœbus*, and *Mons. Molin*. *Yvonne Desblanc* is a very large globular incurving variety, pure white in colour. *Descartes*, a rich deep wine-coloured Japanese Anemone, is striking and effective; and mention must also be made of the curious novelty *Madame Ed. Roger*, the green Japanese incurved, which in its early stages shows its peculiarity of colour in a marked degree. *Perle Dauphinoise*, *President Nonin*, *Mons. Panckoucke*, and *J. H. Runchman*, all in varying shades of yellow, are interesting, as is *Lady Hanham*. *Lady Byron* is a fine large white, and older known sorts in this colour are *Elaine*, *Lady Selborne*, *Mdlle. Lacroix*, *Bouquet des Dames*, and several more. For richness of colour *Mr. Moorman* judiciously and effectively blends such valuable crimsons and purples as *M. William Holmes*, *Mr. J. Laing*, *Edwin Molyneux*, *G. W. Childs*, *Baron Hirsch*, *Ed. Audiguier*, *Préfet Robert*, *M. Geo. Biron*, *Pride of Madford*, and most of the well-known sorts in these shades. The collection is also a thoroughly representative one, for American seedlings, such as *W. Tricker*, *A. H. Fewkes*, *Col. W. B. Smith*, *H. L. Sunderbruck*, and *Mrs. E. G. Hill* are freely used. *H. Shoesmith*, a Japanese with long drooping yellowish buff florets, is good, and of English origin, as is the deep golden yellow *Margory Kinder*.

The front rows of *Mr. Moorman's* groups are ornamented with freely grown bush plants of various Pompon varieties, which when fully out will do much to enliven the collection.

CHRYSANTHEMUM NIPPONICUM.

ALTHOUGH hardy, this Japanese plant flowers too late to be of service in the open air, the flowers coming irregularly and often deformed, and in cold, wet autumns not opening at all. For the greenhouse, however, it is deserving of a place, as it can be grown easily and with little trouble, and makes a good show when in flower. Cuttings can be put in, in a similar manner to other Chrysanthemums, and the after treatment regarding stopping and potting is the same. It is of dwarf, sturdy habit, with dark green glossy leaves and terminal inflorescences. The flower heads are from 2½ to 3 inches across, the ray florets white, the disc greenish yellow. At Kew a large group of eighteen months old plants are in flower in the temperate house. They are growing in 8 and 9-inch pots, and are about 18 inches high and 2 feet through. From thirty to forty flowers are produced on each plant. If rooted in heat the young plants should, as soon as they are established, be stood in a cold frame, as the cooler they can be grown the sturdier they become, and the foliage benefits considerably in texture and colour.—W. D.

N.C.S.—GENERAL COMMITTEE.

ON Monday evening last a meeting of the Executive Committee was held at Carr's Restaurant, Strand; Mr. T. W. Sanders presiding. The Chairman gave in a report of the Sub-committee appointed to take the necessary steps to defend the action brought against the Society for the recovery of certain prizes at the last November Show, and which action resulted in a verdict for the Society. The Sub-Committee, consisting of Messrs. T. W. Sanders, C. Harman Payne, and H. Taylor, were accorded a vote of thanks for the trouble they had taken.

The Secretary announced that on the first day of the forthcoming show—viz., November 8th—there would be a meeting of the Classification Committee. Fixtures for 1899 next occupied the attention of the meeting, and as a result it was resolved that three shows only be held, as follows:—October 10th, 11th, and 12th; November 7th, 8th, and 9th; December 5th, 6th, and 7th. It was also reported that the prize money awarded at the last show in October amounted to the sum of £47 5s.

The following awards of medals, on the recommendation of the Arbitration Committee, were confirmed. Large gold medal to Mr. H. J. Jones; small gold medal to Mr. Norman Davis; silver-gilt medals to Messrs. Berry, Beckett, Laing & Sons, Mortimer, W. Wells, and T. S. Ware, Ltd.; silver medals to Messrs. Cutbush & Son, Cannell and Sons, Deverill, Godfrey and Spooner; small silver medal to Mr. Box, bronze medals to Messrs. R. Owen and T. Robinson.

It was resolved, on the recommendation of the Dinner Sub-committee, that the annual dinner be held this year at the Holborn Restaurant, on Wednesday, the 30th November, and that ladies be invited. Various details as to the forthcoming show were then settled, and the meeting concluded with the election of twenty-three new members and one Fellow.

N.C.S.—FLORAL COMMITTEE.

THE Floral Committee of this Society held a meeting at the Royal Aquarium, Westminster, on Monday last, when Mr. T. Bevan occupied the chair. There was a very good collection of cut blooms of Chrysanthemums, and the high average quality of the exhibits was quite a noteworthy feature of the meeting. The attendance of members and exhibitors was good, and the results of the meeting were as follows. First-class certificates were awarded to the undermentioned varieties:—

Mrs. W. Mease.—The well-known Carnot sport, much paler than G. J. Warren. It is as beautifully formed as its parent, Mme. Carnot, and the colour is a pure pale sulphur or primrose. Exhibited by Mr. Godfrey.

Nellie Pockett.—This is of Australian origin, a very fine Japanese incurved, with narrow grooved incurving florets; colour pure glistening white. Shown by Mr. W. Wells.

Mychett Beauty.—A golden yellow decorative Japanese, very free and useful. Another of Mr. Wells'.

R. Hooper Pearson.—This is one of the grandest. A large Japanese, big and solid, a kind of yellow Mutual Friend, with very broad florets, curly at the tips; the colour is a deep velvety golden yellow, with a reverse of glistening pale gold yellow. Mr. H. J. Jones was the exhibitor of this.

John Miles.—An incurved, very perfect in form, deep and globular; colour deep golden orange. Shown by Mr. N. Molyneux.

Mrs. Coombes.—Japanese with very long drooping florets, very full and double, large blooms; colour deep rosy mauve. From Mr. H. Weeks.

Lady Crawshaw.—A large Japanese with narrow intermingling florets; colour creamy white, slightly tinted. Also shown by Mr. H. Weeks.

Emily Towers.—Japanese with medium-sized florets, incurving in the centre; rosy mauve pink with pretty silvery pink reverse. Another from Mr. Weeks.

Henry Weeks.—A Japanese of large size with medium florets, the outer ones being purplish crimson, inside reddish crimson; golden reverse. Shown by Mr. Wells.

Mrs. White Popham.—A very large Japanese incurved with very broad grooved florets, bold and effective; colour white, deeply shaded rosy purple. From Mr. W. Wells.

Ryecroft Scarlet.—Here is a very useful and effective decorative free-flowering Japanese; the colour is crimson-red, with golden reverse. Mr. H. J. Jones was the exhibitor.

Some very good varieties were submitted to the Committee, but hardly came up to the standard required. Of these Fred Joy, a fine crimson Japanese with golden reverse, the Committee wished to see again. Fair Maid, rather a flat Japanese, but a very pretty shade of lilac pink, the Committee also wished to see again. Jane Bloomfield, a very fine shade of golden yellow, was also asked to be submitted again. Le Grand Dragon, a deep golden yellow, was the object of a similar request. The best exhibits came from Messrs. H. Cannell and Sons, N. Molyneux, W. Wells, R. Owen, H. J. Jones, W. Seward, H. Weeks, and W. J. Godfrey.

THE N.C.S.—AQUARIUM VERSUS C. PALACE AND ROYAL.

It is rumoured that if the N.C.S. leave the Aquarium the proprietors will run a Chrysanthemum Show on their own account, and they are, of course, at liberty to do the best they can in that direction. Already the N.C.S. exhibitions are being commonly termed the "Aquarium Shows." The "National" was merely a change from "Stoke Newington." Fancy the R.H.S. holding its great fruit show in the crowded Aquarium! And note the prestige of this—the real national Horticultural Society—the entrance to the Drill Hall well lined with "carriages and pairs." Why is not a "Royal Chrysanthemum Society" formed to hold two or three exhibitions at the Crystal Palace? I know that several of the leading trade growers would certainly join any society that would go to the Palace. In addition to the R.H.S. the Kingston Society is, I think, entitled to the distinction "Royal;" it is a Society of repute, and was the first to widen the interest in the Chrysanthemum in this country, as it was the first to offer valuable cups, also the first to provide substantial prizes for Japanese blooms and for groups of plants. Birmingham is also being discussed as a fine centre for a grand British Chrysanthemum Show.—A TRADE GROWER.

CHRYSANTHEMUM RUST.

REFERRING to Mr. Godfrey's letter on page 324, we do not think that his rather sweeping assertion as to the universality of the disease should be allowed to pass uncontradicted. We ourselves received diseased plants in the spring from several sources, but by careful quarantine and constant treatment with fungicides succeeded in getting rid of it, and we believe our collection is absolutely clean at the present moment, and there may probably be a number of others equally fortunate.—J. R. PEARSON & SONS.

REFERRING to your editorial remarks under Mr. Godfrey's letter on page 324, last week, it will be most useful and interesting to many of your readers who are fighting the battle with the rust, if you would indicate in your next the exact composition of Mr. Fenn's sulphate of copper and lime powder, and also where one can be sure of obtaining it pure, as well as the bellows distributor, which you say Mr. Fenn uses, the great difficulty being to get *under* the leaves, especially when the plant is too large to handle freely. I may tell you, as an interesting fact in connection with the disease, that I succeeded in saving and curing most of the twenty-five plants which, as I wrote you last February, were badly affected, and I have not seen any rust on them since. I attribute the cure to applications of sulphate of copper and lime in solution until late in the spring. Is there any danger, when using the powder freely, of the soil being injuriously affected by the powder which must fall on it?—J. G. MILLS.

[It would appear that Mr. Mills succeeded in banishing the fungus that attacked his Chrysanthemums in the same way, but by different means, that Mr. Fenn cleared the fungi from his Potatoes, Vines, Tomatoes, Roses, everything—namely, by early and persistent applications of sulphate of copper and lime, one using the antidote in a liquid, the other in powder form. Note the word "antidote"—a preventive. When the mycelium of a fungus takes firm possession of the leaves of plants, permeating their tissues as the "spawn" does a Mushroom bed, nothing can be done that will save them, and frantic endeavours to effect a cure then is akin to locking the stable door when the steed is stolen, or in other words the action is too late.

We have dozens of fungus-infested Chrysanthemum leaves before us as we write. They have come from widely separated districts, and exactly resemble those illustrated on page 285, October 13th, with the exception that some of the leaves are worse than those depicted, in fact practically eaten up. It is beyond the power of any human being to restore such leaves to health by any application whatsoever. It is well known that the Potato disease fungus can be kept in subjection by timely and repeated applications of sulphate of copper and lime, simply because these prevent the germinal tube of the spores entering the leaves; but let the fungus become deeply seated in the plants, and the dressings then given cannot save the crops. It is precisely the same with fungus-infested Vines, Tomatoes, Chrysanthemums, or anything else.

In the earliest stages, or immediately the presence of the fungus is faintly visible, it can be successfully combated, for even if the first few leaves succumb—and it is well to remove and burn them—the others can be so fortified as to be practicably impenetrable by the enemy. This Mr. Fenn's practice proved conclusively. We were more than once witness of the invasion to which his plants and crops were the victims; and also more than once of the revolution he effected—for it was nothing else—by his untiring dustings.

We are not able to state the relative proportions of the copper and lime in the powder, but this is not material, as the anti-blight is cheap enough. It is Messrs. Tait & Buchanan's, and was first used with such pronounced success by Mr. Tait in his continental vineyards, that it was decided to place it in the market. Mr. Fenn obtained his

supply and bellows from Messrs. Barr & Son, whose address may be found on our first page of advertisements nearly every week.

As to the effects of the powder on the soil, Mr. Fenn describes them as good; and we have certainly seen in his garden portions of Potato rows dressed and undressed, the tops of the former green at lifting time, those of the latter dead. Also we have seen the crops lifted; those of unpowdered plants light and diseased, those of powdered full and clean. Mr. Fenn, therefore, described the powder as manure. We did not altogether agree, though admitted the action of the lime might be beneficial in his black humus-stored soil. The increased crops, we suspect, resulted mainly in consequence of the dressed plants remaining green, through the absence of the parasite, for weeks after those of the undressed, and thus the manufacture and storage of starch by the former would continue much longer, and the increased weight of tubers be a natural result. We have observed the soil in the trough in which Mr. Fenn was growing his Tomatoes quite grey with the powder from his constant puffings, and no plants could be cleaner or in better health. We are not able to say that a similar amount of powder falling on the soil in Chrysanthemum pots would be equally innocuous to the plants. It might be prudent to proceed experimentally in the matter, and ways and means could be devised for averting injury that might possibly ensue by overdressing the soil. As to the assumed difficulty of powdering the under sides of the leaves; if Mr. Fenn found no such difficulty in the case of his Potatoes, as he did not, it is certain he would not find any in dusting both sides of the leaves of Chrysanthemums.

We believe the Chrysanthemum rust fungus is conquerable—i.e., preventable. We do not say by powder exclusively, or positively. This is only suggested, for the reasons stated; but of this we are confident—namely, that if the fungus gets anything like so firmly established as it is in the great majority of leaves that arrived by this (Monday) morning's post, neither sulphate of copper and lime in powder or liquid form, sulphate of iron, sulphide of potassium, permanganate of potash, petroleum emulsion, arsenico-alcohol decoction, nor anything else, can effect a cure and restore the leaves to health, for their tissues are utterly destroyed.]

In March last I had two plants of Lady Hanham from a well known grower, which shortly afterwards developed spots of rust. I isolated the plants, and tried firstly a solution of permanganate of potash, but that did not seem effective, so I pulled off all the diseased leaves from one plant and tried the effect of methylated spirit on the other, and in each instance I managed to get rid of the pest, in the latter case without losing a single leaf.—H. A. A., Penarth.

PRIZES AT CHRYSANTHEMUM SHOWS.

THE manner in which committees draw up their list of prizes annually to insure the best results is no doubt a matter which requires much consideration, as so many circumstances, local and otherwise, have to be taken into account. The object of an executive is in the first place to offer such prizes as will insure keen competition and a meritorious exhibition, to induce the public to attend. The treasurer of every society, too, needs a clear balance on the right side of the ledger—a point of importance that cannot be overlooked. This is a strong factor in the drawing up of the prize schedule. When we consider, too, how little shows vary one from another yearly in detail, it surprises many persons how some societies continue on such stereotyped lines as some adopt.

For years I have advocated, in the interests of all concerned, the offering of challenge cups or vases as leading prizes in certain classes and sections of shows. I am aware that many exhibitors regard such prizes with disfavour, because of the great anxiety a winner of the first heat, as it may not inaptly be termed, experiences in respect to the next season's contest. In no way does an exhibitor earn a reputation more quickly than by securing one or more challenge cups in strong competition. There are men of my acquaintance who pooh, pooh this method of offering prizes, but they scarcely belong to the highest class of exhibitors. It is evident that committees are now keenly alive to the importance of encouraging owners who allow their property to be sent so freely to the shows, because as a rule challenge and sometimes ordinary cups, bowls, or vases go to ornament the sideboards of the employers' dining rooms, and rightly so.

As a proof of the importance of this form of prize offering, I find on looking through the prize schedules of forty societies, taking them as they come, not selecting the important shows only, no less than thirty-two challenge cups, bowls, and vases are offered for Chrysanthemums alone. In addition to this number there are fifteen silver cups given as prizes. I mean cups to be won outright in one season. In addition to these gold, silver, and gilt medals are offered in abundance in some cases instead of cash prizes. In others, in addition to these, I think the policy of considering those who provide the means for growing and showing Chrysanthemums is wise.—E. M.

REGINALD GODFREY.

THIS English-raised seedling belongs to the Japanese section, and promises to become a standard variety. In form it is not unlike Miss Dorothea Shea. The newcomer is, however, superior to either, being more massive in build, while there is no loss of refinement in floret. The colour on the upper surface is a rich but soft rosy crimson, the reverse being old gold. In habit of growth it is all that could be desired, producing exhibition blooms at 3½ feet high.—E. M.

EARLY FLOWERING CHRYSANTHEMUMS.

MESSRS. DOBBIE & Co., Rothesay, write:—"We send you specimen blooms of early Chrysanthemums cut from the open nursery to-day (October 27th). The great storm of last week damaged them considerably, but sufficient have been left to show their value as an open border plant, especially for amateurs."

[The above note accompanied about three dozen varieties of the Japanese, reflexed and Pompon sections, of which the latter were especially charming. All colours were represented, but if anything the yellows were the best. There can be no two opinions as to the value of several of these varieties for border adornment, not only in small gardens, but also in those of greater pretensions. The blooms sent embellish the editorial sanctum, and are much appreciated.]

NOVEMBER BLOOMING OUTDOOR CHRYSANTHEMUMS.

OUTDOOR blooming Chrysanthemums are more generally associated with September and October, hence it is refreshing to see varieties which will enliven the garden with bloom in the month of November. There are two varieties which are commonly grown in cottage gardens in Kent because of the bright and prolific display of flowers they invariably produce. They are old varieties and only give small flowers, but they make up for size in numbers. Progne is the name of one, and Julie Lagravère the other. Progne is a small reflexed variety, with flowers of a bright amaranth colour, which are distinctly violet-scented. The plants grow bushy as a rule, and seem to succeed well year after year in the same spot with very little attention. Julie Lagravère belongs to the same class, the flowers being about the same size and freely produced in bunches. The colour is a dark or velvety crimson, and when fresh the blooms have a specially attractive appearance. These two varieties are worth growing because of their uncommon colours, which show up well in the garden now somewhat bare of flowers. In my opinion useful varieties like these, though small, are worth growing, especially as they are late, hardy, and free.—E. D. S.

SPECIALITIES IN PRIZE SCHEDULES.

(Continued from page 324.)

THE week commencing on the 7th inst. is perhaps the busiest of the season. Liverpool opens its nineteenth exhibition on Tuesday in St. George's Hall. In all departments the competition is keen, and the exhibits of high quality. Perhaps the greatest interest is there centred in the cut blooms. For two dozen incurved and a similar number of Japanese, all to be distinct, ten guineas is offered as first prize. In addition the silver challenge cup of the Association, valued at twenty guineas, is given to the premier exhibitor. Besides these there are classes for specimens, miscellaneous plants, and fruit. Bournemouth selects the same date for its meeting in the Winter Gardens of the Hotel Mont Doré. Seven classes for cut blooms are open to all England, as well as a group of Chrysanthemums and foliage plants. Many classes are devoted to local exhibitors; amateurs, single-handed gardeners, and cottagers are well provided for.

The sixteenth annual meeting also opens at Hanley, in the Town Hall. Classes, with liberal prizes, are provided for Japanese and incurved in separate stands, so what with those open to all England and the numerous local classes a thoroughly representative meeting should be secured. Thursday, 10th, is the day chosen by the Windsor, Eton, and District Society for its annual Show in the Albert Institute. At no meeting that I am acquainted with can better Chrysanthemum groups be seen than has been customary here of late years. Cut blooms, too, are of really first-rate quality, if not staged in extra large numbers. The 11th and 12th are busy dates, several important societies in the north having chosen these dates. At Sheffield, in the Corn Exchange, one of the best of autumn shows is usually to be found on the date named. In the cut bloom section the conditions governing the classes are easy. For instance, not more than eighteen varieties are required in the classes for two dozen Japanese, and a similar number of incurved. District classes are a feature. Bradford, too, during the twelve years Chrysanthemum shows have been held there, has made great strides in the presentation of the autumn queen to its patrons. This fact is mainly due to the offering of substantial prizes and the easy conditions of class requirements. For instance, £20 10s. is offered, in three prizes, for twenty-four Japanese blooms, in not less than eighteen varieties. At Altrincham, which embraces the district of Bowdon and Sale, the third annual Show is to be held on Friday, 11th, in the Drill Hall. The schedule

contains nearly fifty classes, and is thoroughly representative of the flower.

Tuesday 15th commences a busy week in the north. The Leeds Paxton Society holds its tenth Show in the Town Hall; Brighton, in the Dome; and Ulster in St George's covered Market Hall in Belfast. At the first-named Show cut blooms are well provided for, a silver challenge cup along with £5 is the encouragement to exhibit but twenty-four incurved specimens in not less than eighteen varieties. At Brighton some of the best shows have been seen in the past that it is possible to conceive. Cultivators around have a suitable climate and a charming site to display their produce. To the Ulster Society belongs the honour of offering the most valuable prizes for cut blooms during the present season; £50 is to be expended in six prizes in one class—viz., that for forty-eight Japanese blooms, to contain not less than three dozen varieties. In order to encourage home growers who labour under suggested disadvantages as to climate, an additional sum of £10 is offered by Mr. W. T. Braithwaite to the Irish grower who shall be in the order of merit of first, second, or third. In all nineteen classes are provided for cut blooms, therefore a thoroughly good display should result. Groups of Chrysanthemums and specimens receive much encouragement also.—E. MOLYNEUX.

CHRYSANTHEMUMS IN SOUTH WALES.

HAVING lately had an opportunity of viewing several of the largest collections of Chrysanthemums in S. Wales, it may interest some of your readers to hear what is going on in these parts.

My first visit was to Picton Castle, where Mr. Dumble manages to grow some wonderfully well-finished incurved blooms. I caught him in midst of housing his plants, and a most promising collection they made, especially his favourites. Mr. Dumble says he cannot grow Japs, but that, I think, is quite a matter of opinion. Julia Scaramanga, Madame Carnot, Mons. Chenon de Léché, E. Molyneux, Australie, and the new Mary Molyneux are all impressed on my memory as promising some good blooms. I cannot leave Picton without a word of praise to Mr. Dumble for the fine show of Grapes he has, especially the White Muscats, which were a sight to be remembered.

I next paid a visit to Duffryn House, Mountain Ash, where Lord Aberdare's gardener, Mr. Davies, is trying his hand at exhibition blooms for the first time. He has some healthy plants, but they are housed in a large lean-to vinery, which struck me as being too lofty. Mr. G. W. Palmer, Etoile de Lyon, Madame G. Henri, Australie, Graphic, and International, were some that I remember as likely to do Mr. Davies a good turn. If he can finish his blooms anything after the style of some of his vegetables we shall hear more of him next month.

A fortnight later I paid that enthusiastic grower, Mr. G. Drake of Cardiff, a visit, and there saw 300 or more plants grown in deep 7-inch pots, and the results certainly seem to have justified Mr. Drake's experiment. Looking into a span-roofed Tomato house, with a cemented floor, an array of fine blooms meets the eye. The most conspicuous amongst them were Ella Curtis, E. Tabor, Mrs. Lewis, Mrs. G. W. Palmer, Mutual Friend, Belle Mauve (a charming bloom), Madame Bergier, Werther, Madame G. Bruant, Lady Hanham, Mrs. Lees, Pride of Madford (very fine), Mrs. S. C. Probyn, Robert Powell, E. Molyneux, N.C.S. Jubilee, and Simplicity. Mr. Drake also grows a large number of plants for cut blooms, and these dwarf specimens are a great testimony to the care and attention that Mr. Drake bestows on his Mums.

Leaving Mr. Drake I next wended my way to The Heath, near Cardiff, where Mr. Joy, a successful exhibitor last year, was on the look out for me, and took me round his collection of Japs, which were all safely housed in a span-roofed structure and in the early vinery. Mr. Joy is certainly to be congratulated on the results of his efforts. Amongst the novelties he has a useful coloured seedling; it is a deep old rose colour free from shading, with very broad petals, and should be heard of later on. Wilton Beauty, a curiously coloured bloom of large dimensions, was particularly noticeable. Amongst many heavy flowers the following deserve a word of praise, and should repay Mr. Joy for his care and attention—Pride of Madford, E. Molyneux, C. W. Richardson, Phœbus, Madame G. Henri, Oceana, President Nonin, a lovely bloom; V. Morel, N.C.S. Jubilee, Australie, G. J. Warren, very promising; Graphic, Lady Ridgway, Lady Byron, and Elthorne Beauty. Mr. Joy also showed me some healthy Cattleyas and splendid bunches of Grapes.

Dulwich House, Llandaff, is the new location of Mr. John Howe, the 1896 Cardiff champion, who left Lanelay House, Llantrissant, last November. I there found some 400 plants, all Japanese, making a goodly show in a large Peach house. Amongst the most prominent were Madame Louis Remy, Oceana, Charles Davis, Madame Ferlat, Mons. B. Varlot, Pride of Madford, Madame G. Henri, Phœbus, Mons. Chenon de Léché, Mdle. L. Zédé, Australie, Miss M. Molyneux, Elthorne Beauty, International, Royal Standard, and Madame Carnot. Mr. Howe has a fine collection of Crotons and specimen plants, also a choice show of Zonal Pelargoniums. Considering the disadvantage he

has been under in having to make a fresh start under new conditions, Mr. Howe deserves great credit, and we shall doubtless see his name well to the front at Cardiff Show.—H. A. A.

CHRYSANTHEMUMS IN SURREY.

WHATEVER may be the claims of other counties, we can claim to have in Mr. W. Mease, Downside, Leatherhead, one of the champion growers of Chrysanthemums, and it is doubtful whether in any private garden in the kingdom there can be seen a grander lot of blooms, Japanese and incurved, than Mr. C. J. Salter has at Woodhatch. Unfortunately this fine grower is too largely debarred from competing at exhibitions, more's the pity. At Kingston in a few days will be a keen competition for the fine challenge vase, one of the finest of its kind in the kingdom, and the two most formidable competitors again are Surrey men, in the persons of Mr. G. Hunt of Ashted Park and Mr. King of Holmwood. Other high-class growers are Messrs. Paddon of Bramley Park, Higgs of Fetcham Park, Baker of Ewhurst, Gibson of Morden Park, the two Aldermans, Sturt of Round Oak, Mileham of Leatherhead, and many others, so that were county to challenge county, Surrey would indeed be hard to beat. Even in regard to trade growers, the county has its share in Mr. W. Wells of Earlswood, one of the largest in the kingdom, and Mr. H. Shoesmith of Woking. I hope on furnishing so formidable a list of Surrey growers of first-class merit, no one will assume that I am inviting those of some other county to tread on the tails of my coat; but if Middlesex, which has a champion grower also in the person of Mr. W. H. Lees, would throw down the gauntlet, a very pretty fight, florally, might result.

WOODHATCH.

I have recently had an opportunity to see a few of our leading county collections, earliest amongst which was that of Woodhatch, Reigate, the residence of T. B. Haywood, Esq. Here Mr. Salter has his battalions of plants paraded in two long lean-to houses, and presenting a superb show. Finer quality in all sections—and literally all are grown—it would be indeed difficult to see anywhere. Of specially fine form in Japanese were Lady Ridgway, Pride of Stokell, Lady Hanham, Phœbus, Mons. Chenon de Léché, Madame M. Ricoud, Pride of Madford, Lucille du Drome, Mrs. J. Lewis, Madame Desblanc, C. B. Haywood, Madame Carnot, Simplicity, E. Molyneux, Col. W. B. Smith, John Pockett, N.C.S. Jubilee, Congrès du Bourges (rich magenta), Lady Byron, Marie Calvat, Australie, Nellie Pockett (a beautiful variety), Miss Elsie Teichmann, Amiral Avellan, with many other Japanese. Also of incurveds, Alfred Lyne, Globe d'Or, Jeanne d'Arc, Baron Hirsch, R. C. Kingston, Lord Wolseley, Prince Alfred, John Doughty, Violet Tomlin, Mrs. Coleman, C. H. Curtis, Mrs. J. Mearns, with numerous others. Not only are the blooms of the finest, but the plants are clean and finely foliaged. It seems as if the dreaded rust had no terrors here. Amongst other sights here is a span-house filled with Zonal Pelargoniums in glorious bloom, certainly not to be excelled anywhere. The entire gardens and houses are exceedingly neat and clean, and reflect on the gardener high credit.

WOODSIDE.

Woodside, Leatherhead, the residence of A. Tate, Esq.—The very high position to which Mr. W. Mease has attained naturally renders his collection one of exceeding interest; not only does it include many high-class novelties, but also all the varieties are produced in exceptionally fine form. The bulk of the plants are arranged in two large span houses, and the blooms come near the glass. Special raised paths are made to enable the flowers to be easily seen by visitors; chief amongst them as new and most beautiful was R. H. Pearson, so tentatively named, one of Mr. H. J. Jones' seedlings, a singularly rich, brilliant yellow of flattish form, quite the richest of that colour yet seen. In form it comes near to Mons. Chenon de Léché, which is here so wonderfully fine, in many flowers. Singularly beautiful for so old a variety, quite marvellous, are the blooms of E. Molyneux; indeed, I do not think I have ever seen finer. Swanley Giant is gigantic; so, too, is Mrs. White Popham. A very beautiful new one is James Bidencope. Quite of lovely form is N.C.S. Jubilee. Very full, too, is Mons. M. de la Rochetière, Lady Ridgway, Lady Hanham, Chas. Davis, Mrs. G. W. Palmer, Mons. Panckoucke, Mutual Friend, Modesto, Miss Nellie Pockett, Mrs. W. Mease, so very beautiful and refined and so distinct from G. J. Warren; Robert Powell, Australie, Mrs. C. Orchard, Mrs. F. A. Bevan, Madame Gustave Henri, Oceana, Madame P. Rivoire, Madame C. Bruant, Surpasse Admiral, Ella Curtis, Matthew Hodgson, Graphic, Robert Owen, and so on *ad infinitum*. Incurveds are a little late, but will presently be in fine form. It is altogether a splendid collection, one worth going a long journey to see.

EARLSWOOD.

Mr. W. Wells' Collection at Earlswood.—I have but time just to note some of the leading varieties in this remarkably fine collection, one perhaps unexcelled for variety and extent in the kingdom. That new yellow, Le Grand Dragon, is very striking, and wonderfully fine

is Mrs. White Popham. J. Chamberlain is good. Topaze Oriental, Countess of Warwick, Madame Desblanc are all capital. Quite set and distinct now is the white Vivand Morel or Mrs. J. Riston. Very superb is Mr. T. Carrington, one of the Australians. Mr. Pockett's seedlings are first-rate this season; so, too, are Nellie Pockett and John Pockett. Mrs. J. W. Barbey is also a fine bloom. President Bevan should make a splendid back row bloom, and very charming is Mrs. J. A. Haines and Lord Lullov. But these are merely a few of the many, for the collection is rich in novelties.

Not the least of the attractions at Earlswood is found in the myriads of outdoor or early blooming varieties grown in a large field on the common. Here are huge breadths of all the best early varieties, quite a sight in themselves. It is no matter for surprise that this section has become so popular. Those varieties that bloom in October generally are the most useful, and of these Crimson Pride, 3 feet; Roi des Précoce, rich reddish claret, very beautiful; Crimson Precocité, red terra cotta with vermilion shading, quite lovely; Nellie Brown, a rich golden; Source d'Or, one of the best for cutting; Madame de Lepatier, chestnut; Martinmas, soft pink white; Madame La Gagac, soft lilac; Mychett Beauty, yellow; Market, white, very pure; and others, furnishing quite a mass of beauty.—A. D.

MESSRS. VEITCH & SONS.

THE Chrysanthemums here not only bear signs of careful cultivation, but they also show that a rigid and careful selection has been made from the numberless novelties that are yearly distributed from all sources. Bush-grown freely flowered plants of several varieties, such as Mrs. Cullingford, William Seward, M. Wm. Holmes, Madame la Comtesse Foucher de Careil, Wm. Tricker, and others form an interesting and pleasing variation from the orthodox big blooms, and will no doubt attract many visitors for whom the Chrysanthemum, as a purely decorative flower, has special interest.

Descartes, the deep wine coloured Japanese Anemone, is good here, as it is everywhere; Mrs. R. C. Kingston, a big, solid, pink coloured incurved, is in fine form; Col. W. B. Smith, W. H. Lincoln, and the hairy yellow Leocadie Gentils are also of good promise.

Miss Nellie Pockett is of Australian origin; it is a very pretty Japanese with a multitude of narrow grooved incurving florets pointed at the tips; colour pure white. William Towers is a large spreading flower with long drooping florets of medium width, and the colour is very pure pale canary yellow. The large white Lady Byron is in good form, deep and solid; so, too, are Sunflower and Robert Powell, both well known. Modesto, the rich deep golden yellow American introduction, is very fine in colour and size.

Amongst the miscellaneous novelties of a few seasons ago received from the Continent M. Aug. Lacoivier is rather early, but of a peculiarly delicate blending of colour. Baron Hirsch, Hairy Wonder, and William Seward are also noteworthy.

Good whites are represented by Mrs. H. Weeks, Mrs. Chas. Blick, Mutual Friend, while higher tones and varying in degrees of richness are Octoroon, Royal Standard, Ethel Addison, Charles Davis, and its parent, Vivand Morel. Calvat's seedlings are finely flowered, one of the best being Louise. President Nonin, Amiral Avellan, Werther, M. C. Molin, Général Paquié, President Borel, and Madame Gustave Henri are all of good promise; besides which there are Madame Marius Ricaud, Madame Ferlat, N.C.S. Jubilee, and Souvenir de Malines.

ROYAL HORTICULTURAL SOCIETY.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair); Mr. Bennett-Pöe, Rev. W. Wilks, and Rev. G. Henslow, Hon. Sec.

Cypripedium insigne Malformed.—A flower was received from Mr. R. Keeble of the Gardens, Twyford, Berks, remarkable for being in a very arrested state. The front sepals were nearly separate, not coherent as usual. The posterior sepal was normal, the petals were present, but no pistil, a solid column occupying the centre of the flower, with an abortive stigma at the summit.

Fruit of Diospyros kaki.—Canon Ellacombe sent some specimens "from a tree growing against a south wall, but never protected, which has been there at least a dozen years and possibly more."

Victoria Plums, Second Crops.—Both Mr. Marshall of Bexley and Mr. Addington of Ford House, St. Neots, sent samples of ripe Plums of this variety, as second crops. Mr. Addington remarks:—"The tree off which I gathered them had an enormous crop of Plums early this year, and it has now a good quantity of a second crop." It is, of course, an unusual occurrence, but the result of the prolonged summer weather.

Lilium speciosum with Petaloid Stamens.—A blossom was received from Mr. E. H. Jenkins of the Queen's Road Nursery, Hampton Hill, remarkable for the three exterior (sepaline) stamens being completely changed into perianth leaves, resembling the others in every way.

Plants Damping Off.—Mr. Saltmarsh of Chelmsford sent some cut flowers of Chrysanthemums in which the lower part of the blossom was arrested in growth from internal decay. It was the general opinion that this was due to too gross feeding and a too confined air. Flowers of sulphur might correct it, if the other conditions were attended to.

THE YOUNG GARDENERS' DOMAIN.

SALVIAS.

AMONG autumn flowering plants Salvias must be accorded a prominent place, as for furnishing, in association with early Chrysanthemums, they are wonderfully effective. Then, too, in a cut state for vases, the lasting properties of the flowers make them very desirable. Two of the best for the purpose indicated are splendens and Betheli, while for bedding *S. patens* is excellent, the lively blue, when the plants are massed, being most pleasing during the late summer months. After flowering the tubers may be lifted and stored as in the case of Dahlias, or if in a sheltered spot, a slight covering of stable litter will suffice to preserve them from frost.

Cuttings of *S. splendens* and *Betheli* rooted early in the spring and potted as required, may be planted in June. If they are carefully pinched and well watered, fine specimens will be ready for lifting by the end of August. They should be kept close and syringed for a few days, to encourage root action, after which they may be placed in a sheltered spot out of doors until required for furnishing.—BEGINNER.

BEGONIA GLOIRE DE LORRAINE.

HAVING had considerable experience with this winter-flowering plant I can corroborate all that "T. P." said on page 290 relative to its value as a decorative plant. I consider it far superior to any other.

Our system of procedure differs in many respects from that recommended by your contributor. After flowering we cut back the plants to about 3 or 4 inches of growth, and they are kept somewhat drier than usual during their resting period. The earliest cuttings are usually crowded with flower buds, but these must be avoided, removing all buds, and pinching back the growth. The plants will eventually produce healthy growths at the base, which may be taken as cuttings and rooted in the usual way.

Pot the plants singly as soon as ready into 60's, and when they become established should be accorded a position where light is abundant, but shaded from the hot sun. Air must be admitted in favourable weather, as it insures the sturdy growth that is desirable. Transfer the plants into larger pots as soon as they require it. Loam and peat in equal parts, with a quantity of sand added, will make an excellent compost. An occasional watering with weak liquid manure or soot water is all that is required until the pinching out of the flower buds has ceased, when a small quantity of some approved chemical fertiliser will be beneficial.

An important item in their culture is to remove all decaying flowers during their growing season. I do not consider it advisable to syringe the plants or to pinch back any growths, as the latter checks their progress considerably, and if practised when in a young state it often arrests progress entirely.—J. F. D., Yorks.



HARDY FRUIT GARDEN.

Root-pruning Fruit Trees.—A check may be given to fruit trees that are growing too luxuriantly by root pruning. A distinction must be made between the free and vigorous growth of healthy and fruitful trees, and the strong sappy shoots of luxuriantly growing but unfruitful trees. The cause of trees attaining to the latter condition is the descent of some of the strong roots deep into the subsoil. It is these roots which require checking, that is, shortening at a reasonable distance from the main stem, whereby they may be induced to send forth finer and more numerous roots that will encourage the production of comparatively weaker, and therefore more fruitful wood subsequently.

If the root-pruning is not carried out too severely the subdued vigour will be more likely to become concentrated in the hitherto weak fruit buds instead of growing to waste in long shoots. It is only, as a rule, pruned and restricted fruit trees which need root-pruning. The operation can only be expected to be of service when the trees are growing in suitable positions, and otherwise established under proper conditions regarding light, air, and sufficient space for development. Trees that have had their fruiting capabilities spoiled by overcrowding, and thus induced a gross habit, will not be improved by root-pruning, nor should the operation be practised on worthless varieties, or very old, exhausted specimens.

Young Trees.—Root-pruning in a mild and judicious way is a means of providing a wholesome check to the vigorous and luxuriant growth of young trees which, before attaining to a fruiting condition, are apt to develop too rapidly. With these sometimes lifting the trees bodily is preferable to root-pruning, but when they get beyond a portable size the former is not practicable. Probably all that will be required is to cut a trench round the trees at a distance of 2½ to 3 feet, carefully severing and making smooth the ends of strong roots found. Fill in the soil again and make firm.

Old Trees.—Much stronger roots will be found descending from these, and the object of root-pruning must be to cut them off. It may not be desirable to effect this at one operation, hence valuable trees should only be root-pruned half way round the first season; the remaining half may be done the following year.

Cut a trench not less than 3 feet from the stem and a foot or more wide. All the fibrous roots met with may, if possible, be preserved, the strong ones cut cleanly with a slanting upward cut. Remove the soil to a depth sufficient for reaching the whole of the extending roots, and undermine the ball half way to find those that grow in a perpendicular direction. Any roots that it is possible to raise, especially of a fibrous character, may be brought nearer to the surface, carefully spreading them out to their full extent in a horizontal direction in some of the best of the surface soil. The poor subsoil ought not to be used for filling in the trench again. To make up for its absence add some fresh loam and wood ashes to the fertile material removed from the trench, and in replacing it make the whole firm between and among the layers of roots. Afterwards mulch with decayed manure, but before doing so give a copious watering should the soil be at all dry.

Applying Liquid Manure to Fruit Trees.—Now that rain has fallen and the soil has become moistened, liquid manure may be given to old-established Apples, Pears, Plums, and Cherries. Assistance given to trees that have borne good crops will be very beneficial, inasmuch as the demands upon them have been heavy in perfecting the fruit; hence little food has been available for plumping up fruit buds for the succeeding season. Trees growing strongly will not require rich stimulants of this kind, whether they are in a fruiting condition or not, but weakly trees, if healthy, may be induced to make more vigorous growth by such assistance. The drainings from stables, cow-sheds, manure yards, the contents of cesspools and sewage tanks may all be employed. It will be desirable to dilute very strong liquid with water; but, as a rule, the applications of liquid manure to fruit trees at this season and during the winter may be stronger than at other periods, especially if the soil is thoroughly moist.

The roots of fruit trees extend as far as the branches, so the full area of soil covered by them ought to be enriched by the food, either liquid or solid, applied, in order that trees may receive full advantage. In the case of trees in orchards or grass land the application of liquid nutriment should be given as far as possible direct to the roots. This can be effected by making holes with a crowbar at intervals over the rooting area, and repeatedly filling them up with liquid, which will diffuse through the soil. Afterwards fill the holes with good soil.

FRUIT FORCING.

Cucumbers.—To keep the plants in a fruitful state they must be accorded a genial atmosphere, maintaining the night temperature at 65°, 5° more in mild weather, and 5° less in the morning when sharp frosts occur, 70° to 75° in the daytime, advancing to 80°, 85°, or 90° from sun heat. Whenever the weather is favourable a little air may be admitted at the top of the house, being careful not to lower the temperature or admit a current of cold air. The paths and walls will need damping in the morning and afternoon of fine days, but the syringe must not be used over the foliage unless the days are exceptionally bright, and then shortly after midday. The water or liquid manure given to the house must be of the same temperature, as also must the soil or top-dressings applied to the beds.

Autumn-fruiting plants are now in full bearing, and if strong, and not overcropped, will continue to produce fruit for a considerable time. It is necessary to remove the fruit as soon as it becomes a useful size. Attend to the plants once or twice a week for the removal of bad leaves, stopping irregular growths and cutting out superfluous. If mildew appear dust the affected leaves or parts with flowers of sulphur, or form into a paste with skim milk, and brush a little on the hot-water pipes. The fumes given off act well against red spider and "white fly," but aphides must be subdued by fumigations with tobacco paper or the advertised substances, vaporisation with nicotine essence being fatal to mealy bug as well as other insects.

Winter-fruiting plants are by far the most difficult to manage. The great thing is to get them well established and furnished with sturdy growths and thick leathery leaves. Stop the side shoots after a few good leaves are made, and the growths from the wood left will show plenty of fruit, and such may be stopped one or two joints beyond it. This will secure growth for accelerating root action and the proper nourishment of the fruit. Add fresh warmed soil to the ridges or hillocks as the roots protrude, and be careful not to overwater, affording a supply only when needed.

Vines.—*Early Forced in Pots.*—To have ripe Grapes at the end of March or early in April there must be no further delay in getting the house ready and placing the Vines in position. To increase the weight and quality of the Grapes the apertures in the pots should, if small, be widened and some turfy loam placed within easy reach of the roots. This is best effected by erecting pedestals of loose bricks for the pots to stand on, and then building up against them turfy loam in alternate layers with lime rubbish, from the bottom to a little above the side apertures in the pots. By introducing Oak or Beech leaves into the pit they will supply a genial warmth and moisture in the early stages, and rich stimulating food towards the close. The heat about the pots, however, must not exceed 65° at the start, the leaves being added to and raised to the rims of the pots so as to raise the temperature to 70° or 75° by the time the Vines are in leaf. Although it is necessary to have the soil moderately moist, an excess of water is undesirable in the early stage. The canes should be placed in a horizontal position to insure the buds breaking evenly, damping the Vines and house two or three times a day, and maintaining a temperature of 55° and 65° on fine days.

Early Planted-out Vines.—When young and vigorous Vines have to be started for the first time to afford ripe Grapes at the end of April or early in May, the house must be closed by the middle of the month, for they do

not, as a rule, "break" so quickly as Vines that have been forced for a number of years. The Vines will need to be brought into a horizontal position, and well syringed with tepid water, or about the mean temperature of the house, two or three times a day. The temperature of the house may range 50° at night, 55° by day, and 65° on bright days. Older Vines, or those that have previously been forced, need not be started until the beginning of December.

Houses Cleared of Grapes.—When the Vines are leafless and the Grapes cut attend to the pruning without delay. Vines in good condition, having stout short-jointed wood thoroughly ripened, may safely be pruned to a couple of buds. The latter, however, are not always sufficiently developed at the base of the annual growths to give as large bunches as desired, and in that case the bearing wood may be left a little longer, say one or two more buds. Wash the house thoroughly, cleansing the glass and wood-work. Remove all the loose bark on the Vines, but avoid injuring the living by needless peeling and scraping. Wash the rods with tepid soapy water, 4 ozs. to a gallon of water, using a brush effectively, yet with care and judgment, so as to dislodge any hibernating pests. After an efficient washing follow with an insecticide, such as those advertised, carefully following the instructions. Remove the remains of the mulching, also the surface material down to the roots, especially near the collar, and supply a top-dressing of fresh turfy loam chopped moderately small, and to every barrowload (about 3 bushels) add a pint of steamed bonemeal, a quart of soot, and 2 quarts of wood ashes, incorporating thoroughly. Do not employ more of the mixture than suffices to cover the roots a couple of inches. This will encourage surface roots, and when these are active and the Vines in full leaf they can be fed to any extent by top-dressings and liquid applications. Where the houses must be used for plants they must be kept cool, not exceeding 40° to 45°, ventilating freely above that temperature.

THE BEE-KEEPER.

HANDLING BEES.

WE have on more than one occasion explained in these notes that it is from fear that the bees will allow the operator to handle them with impunity, and if the sides of the hive are sharply tapped with the hand a few minutes before commencing operations, it would not be necessary to use smoke or anything else to quiet them. It is, therefore, interesting to read, page 309, of bees being handled on the lines advocated by us at one of the bi-monthly meetings of the Walkley Floral Society. We agree with the lecturer as to the remarkable control that can be obtained over bees by those who take the pains to study them carefully. It is not, however, necessary to form a circle with carbolic acid, or to smear the edges of the hive with the same liquid. The latter certainly has the effect of preventing the bees from flowing over the sides.

The mistake many people make in handling bees is in using more smoke than is required to simply frighten the bees. Many times we have seen bees nearly suffocated before attempting to handle them, the would-be operator not realising the harm that was being done. During calm warm weather bees may be handled without smoke or carbolic, if the operator has a steady hand and is careful not to crush any stray bee. It is advisable to have the smoker to hand in case of an accident, as a sudden jerk of a frame covered with bees will sometimes set the whole colony in an uproar.

MARKETING HONEY.

As good honey is not plentiful, and superior samples are somewhat scarce, it ought not to be difficult in a season like the present to find a market for fair produce. But that such is not the case may be judged from a query to hand quite recently, in which the writer says, "I took off a beautiful lot of honey on Thursday, but what can be done with it? No one here wants it, and I have over 60 lbs. in section." We have often found that bee-keepers having a small quantity of honey on hand have a greater difficulty in finding a market for it than those having several hundredweights to offer. What is the reason? We think it is not far to seek. The man who makes a business of it, and has invested capital in the undertaking, will in time become well known to those requiring honey in large or small quantities, and thus form a connection; then by close attention to details that he will usually find a ready market for all his produce.

It is surprising what may be done by creating a local demand. An illustration of this has come under our notice within the past few days, the details of which may be useful to our friend who does not know what to do with his honey. A neighbouring cottager who has kept bees in straw skeps for many years was anxious to test a frame-hive. Last spring we made him a present of one, with the promise that we would attend to it for him the first season. In due course a swarm of bees was placed in it, and as the weather was fine a crate of twenty-one sections was placed over the frames, and a few days afterwards they were removed, all well filled, about the end of August. Meeting him a few days ago his first words were, "I have sold all my

honey." On inquiring how he had found customers, as he resided in a country village, he said, "I only sold a few sections at home; the remainder I sent to town by a friend who takes butter and eggs, and they were soon disposed of." Thus a market was created, and he will doubtless in the future have a demand for more.—AN ENGLISH BEE-KEEPER.



All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Annual Calceolarias (Somerset).—Seeds of these plants (*C. pinnatifolia* and *C. alba*) may be obtained from Messrs. J. Veitch & Sons, Limited, Chelsea. It is probable that they are not catalogued because the demand is so very small.

Codlin Moth Infestation (S. S.).—We have matter in type on this important subject, but as whatever value it may possess will not be in the least prejudiced by a little delay in publication, it must at present stand over, but will appear as soon as possible. We are obliged by the reminder.

Muscat-flavoured Grapes (H. S.).—The berries of Lady Hastings referred to in our issue of October 20th possessed strong Muscat flavour; they were, however, somewhat shrivelled, and the flavour is then apt to be intensified. It is, all the same, a decidedly Muscat-flavoured Grape. We do not know whether the variety is in commerce or not. You can obtain particulars by writing to Mr. Shingler, whose address is given in the article. We do not know of a new white Grape with a flavour like that of the Muscat of Alexandria.

Overgrown Berberis Darwini (Lampeter).—We have cut down tall Berberises that had been drawn up by other shrubs, and they broke freely from the base. The cutting was done early in spring, at about 9 to 12 inches from the ground. They were not, however, so thick in the stems as that you describe, yet we see no reason why the shrub should not push if cut down in the same way. As the bush is of little use as it is, we should venture to operate, especially as this is the desire of the owner, for even if the stem did not push fresh growths, the only loss would be an unsightly shrub.

Potting Peaches and Nectarines for Fruiting in a Cold Peach House (Falcon).—The proper time for potting trees is as soon as the leaves give indications of falling, or if anything before, the wood being perfectly ripe. The trees then take to the fresh soil at once, and hence support the swelling buds for developing good blossoms, and setting fruit with certainty. This practice has been that of the Messrs. Rivers for many years, both in respect of potting and top-dressing, and has been found the most satisfactory. When interfered with at the roots in the spring the trees do not set the fruit well, nor always make satisfactory growth.

Propagating Rhododendrons from Cuttings (Peach).—The cuttings should be of partially ripened wood, inserted in sandy peat, and kept close and shaded. After they have callused, a slightly higher temperature may be allowed than at first, such as that afforded by a gentle hotbed. Your procedure, therefore, is the right one, keeping the cuttings in the cold frame close and shaded until callused, then transferring to the heated pit. When well rooted gradually harden off, pot them singly and grow the plants in a greenhouse or frame according to the requirements of the species or variety. Of course, hardy varieties should be inured so as to bear open air situations. If the cuttings sent to you were too hard or too soft they will not grow, and in such case you could not be rightly blamed for the failure.

Second Crop Plums (E. J. Stroud).—Second crops, especially of Victoria Plums, have been somewhat common this year. It is impossible to say what the variety is, of which you sent a ripe fruit, for it arrived in an unshapely pulpy state. The second crop of 2 pecks was a good one, if afforded by one tree.

Seedling Carnation (W. T.).—So far as can be judged from the flower, which reached us slightly withered, the variety is of much promise. The petals are broad, of great substance, and regularly formed. The colour, delicate cream, is always a popular one. We should recommend you to grow it well next year, and then submit a number of flowers to Messrs. Veitch & Sons or Mr. J. Douglas for an expert opinion of its probable commercial value.

Chrysanthemum Rust (No Name).—We have received a small box of infested leaves, but no letter pertaining to them. The leaves have evidently been produced by well-grown plants. A correspondent informs us that border plants which have not been disturbed for two years, and have had no manure, have been the first to be infested with the fungus. The tissues of some plants growing in the open ground are softer than are those of many plants which are grown in pots, and the softer the tissues the more favourable the leaves are to penetration by fungoid enemies.

Apple Curl Tail (Amateur).—In your supposition that there is no Apple known by the above name you are in error. It has been in cultivation for many years, and is represented by the woodcut (fig. 60). It takes its name from the peculiar enlargement at the stalk, which curls round like a parrot's beak. The fruit is medium sized, 3 inches wide and the same in height, inclusive of the prominent swelling referred to. It is round and flattened, somewhat obtusely angular, and with furrows at the crown. The enlargement is russet, but the skin is straw coloured, without any traces of red or russet. The eye is closed, with convergent



FIG. 60.—APPLE CURL TAIL.

segments. The stalk is nearly obsolete, being the point of the fleshy swelling. The flesh resembles that of the Codlins; it is white, tender, and agreeably flavoured, but the Apple is only suitable for cooking. It is in use up till Christmas.

Winter Dressing Fruit Trees (Deeside).—Limewashing fruit and other trees for the destruction of hibernating pests has been practised for centuries. The compound to which you refer would be quite safe to use on the thick stems and well ripened wood of hardy fruit trees and bushes. But in cases of the wood not being well matured, as it often is not, even on trees under glass, the penetration of the preparation into the bark would be injurious. We do not advise it for tender fruits, such as Apricots, Peaches, and Nectarines, for there is danger of injuring the unripe wood. For scale there are few better or as good applications as Coate's caustic soda and potash wash—namely, half pound caustic soda (98 per cent.), and half pound commercial potash, dissolved in hot water, and diluted to 8 gallons for the trees named, spraying on whilst quite dormant at a temperature of 130°, or applying carefully with a brush. This will not injure the wood of trees in good condition, but it acts disastrously on unripe wood, as will almost every scale-destroying insecticide; therefore judgment must be exercised, for the first consideration is the safety of the plant or tree. "Your old friend, the Journal," will always be ready to advise on any cases of doubt that you may meet with in your "second readings" during the winter months.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow

themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. *Dessert Pears cannot be named in a hard green state.* (J. T. B.).—1, Loddington Seedling; 2, Cockle's Pippin; 3, Court of Wick; 4, Worcester Pearmain; 5, Fearn's Pippin; 6, Beurré Diel, small. (J. D.).—1, Marie Louise d'Ucele; 2, Beurré Clairgeau; 3, Beurré Bosc; 4, Hacon's Incomparable; 5, stalk end rotten, thus destroying an important character, possibly Beurré d'Amanlis. (W. B.).—1, King of the Pippins; 2, closely resembles Lady Falmouth, for which an award of merit was granted by the R.H.S. last year; 3, Kentish Pippin; 4, Golden Reinette; 5, partially rotten, possibly Doyenné Boussoch. (M. B., Dublin).—1, Striped Beefing; 2, Alfriston; 3, King of the Pippins; 4, Cox's Pomona; 5, Adam's Pearmain. (J. P.). 31, Fondante d'Automne; 32, Beurré Bosc; 34, Bishop's Thumb; 35, Bergamotte d'Automne; 36 and 37, Duchesse d'Angoulême; 38, Beurré Hardy. No more than six varieties can be named at once: see rules above. (W. S.).—Beautifully coloured specimens of Hollandbury. (R. W.).—1, Cox's Orange Pippin, inferior; 4, Waltham Abbey Seedling; 5, unknown, probably local. (Bedford).—1, Brabant Bellefleur; 2, Waltham Abbey Seedling; 3, French Crab; 7, Mère de Ménage; 8, Court of Wick; 9, resembles Northern Greening. See rules above. (Bucks.).—1, Marie Louise; 2, Marie Louise d'Ucele; 3, Hacon's Incomparable, green; 4, Adam's Pearmain; 5, Springrove Pippin; 6, Grenadier. (Fen).—1, Flower of Kent; 2, Bess Pool; 3, Barton's Incomparable; 4, French Crab. (W. T.).—Symmetrical fruit of Alfriston. (T. P. Bridge).—1, Alfriston; 2, King of the Pippins; 3, Reinette Grise; 4, White Stone Pippin; 5, not recognised, probably local; 6, Braddick's Nonpareil.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (C. P.).—1, Ophiopogon jaburan variegatum; 2, Anthericum variegatum; 3, a poor form of Cypripedium insigne. (A. W.).—1, Cupressus Lawsoniana erecta viridis; 2, Thuja occidentalis; 3, Retinospora plumosa aurea; 4, Taxodium distichum; 5, Abies Douglasi; 6, Retinospora ericoides. (S. J. R.).—1, Helleborus niger maximus; 2, Osmanthus ilicifolius; 3, Luculia gratissima. (J. S.).—Microlepia (Davallia) platyphylla. (E. C.).—Cattleya Bowringiana.

TRADE CATALOGUES RECEIVED.

W. Clibran & Son, Altrincham.—*Roses and Trees.*
J. Cocker & Sons, Aberdeen.—*Roses.*
Dicksons, Ltd., Chester.—*Forest and Ornamental Trees.*
Little & Ballantyne, Carlisle.—*Trees.*
J. C. Schmidt, Erfurt.—*Novelties.*

COVENT GARDEN MARKET.—Nov. 2ND.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve	1	3 to 3 6	Lemons, case	30	0 to 60 0
Cobs	40	0 50 0	St. Michael's Pines, each	2	6 5 0
Grapes, lb.	0	10 1 6			

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100	0	0 to 0 0	Mustard and Cress, punnet	0	2 to 0 4
Beans, $\frac{1}{2}$ sieve	0	0 0 0	Onions, bushel	3	6 4 0
Beet, Red, doz.	1	0 0 0	Parsley, doz. bnchs.	2	0 3 0
Carrots, bunch	0	3 0 4	Parsnips, doz.	1	0 0 0
Cauliflowers, doz.	2	0 3 0	Potatoes, cwt.	2	0 4 0
Celery, bundle	1	0 0 0	Salsafy, bundle	1	0 0 0
Coleworts, doz. bnchs.	2	0 4 0	Scorzonera, bundle	1	6 0 0
Cucumbers...	0	4 0 8	Seakale, basket	1	6 1 0
Endive, doz.	1	3 1 6	Shallots, lb.	0	3 0 0
Herbs, bunch	0	3 0 0	Spinach, pad	0	0 0 0
Leeks, bunch	0	2 0 0	Sprouts, $\frac{1}{2}$ sieve	1	6 1 9
Lettuce, doz.	1	3 0 0	Tomatoes, lb.	0	4 0 9
Mushrooms, lb.	0	6	Turnips, bunch	0	3 0 4

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vita, var., doz.	6	0 to 36 0	Ficus elastica, each	1	0 to 7 0
Aspidistra, doz.	18	0 36 0	Foliage plants, var., each	1	0 5 0
Aspidistra, specimen	5	0 10 6	Lilium Harris, doz.	12	0 18 0
Dracæna, var., doz.	12	0 30 0	Lycopodiums, doz.	3	0 4 0
Dracæna viridis, doz.	9	0 18 0	Marguerite Daisy, doz.	6	0 9 0
Erica various, doz.	9	0 24 0	Myrtles, doz.	6	0 9 0
Euonymus, var., doz.	6	0 18 0	Palms, in var., each	1	0 15 0
Evergreens, var., doz.	4	0 18 0	„ specimens	21	0 63 0
Ferns, var., doz.	4	0 18 0	Pelargoniums, scarlet, doz.	4	0 6 0
„ small, 100	4	0 8 0	„ „	8	0 10 0

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch	2	0 to 3 0	Lily of the Valley, 12 sprays	0	9 to 1 6
Bouvardias, bunch	0	6 0 9	Marguerites, doz. bnchs.	2	0 3 0
Carnations, 12 blooms	1	0 2 0	Maidenhair Fern, doz.		
Chrysanthemums, per bch.	0	6 1 0	bnchs. ...	4	0 8 0
„ specimen			Mignonette, doz. bnchs.	1	6 3 0
„ blooms, per doz.	2	0 6 0	Orchids, var., doz. blooms	1	6 9 0
Eucharis, doz.	3	0 4 0	Pelargoniums, doz. bnchs.	3	0 6 0
Gardenias, doz.	1	0 2 0	Roses (indoor), doz.	2	0 4 0
Geranium, scarlet, doz.			„ Red, doz.	2	0 0 0
bnchs. ...	0	6 0 9	„ Tea, white, doz.	2	0 3 0
Lapageria (white)	1	6 2 0	„ Yellow, doz. (Perles)	2	0 3 0
„ (red)	1	0 1 3	„ Safrano (English) doz.	1	0 2 0
Lilium lancifolium, white	2	0 2 6	„ Pink, doz.	2	0 4 0
„ pink	2	0 2 6	Smilax, bunch	1	6 2 0
„ longiflorum, 12 blooms	5	0 6 0	Violets	0	9 2 6



PROFESSOR LONG—HIS BOOK.*

A SERIES of articles on English agriculture from the pen of this writer must always be of interest to the farming community. The Professor is deep and broad and long, and we profess we cannot entirely follow him everywhere. He is very exhaustive, but he does not quite convince us that he knows all and we poor clodhoppers nothing. He is too severe in his strictures on the old-fashioned farmer, and he expects too much from the farmer of the future, who is to be either a man intensely scientific or a hardworking peasant proprietor with everything—land, markets, able-bodied sons, and a smattering of science—in his favour.

The Professor seems to have an animus against large proprietors. He acknowledges they have some good qualities, but he appears to wish their estates could be cut up into small ones indeed, if not divided into so many threes. Has he ever farmed on a large estate or, *vice versa*, on a small one? We have tried both, and we know the difference. There is a chance where the estate is large that necessary repairs are seen to, that suitable reductions are made, and that the last penny is not squeezed out of the unfortunate farmer. But in the other case, where an owner has to live off the rents of two or three farms, he cannot in justice to himself and his family allow much margin to meet the needs of the tenant, be he never so deserving. As to the *nouveau riche* as a landowner—well, we suppose they must be borne with as a necessary evil of the times. They will, in a generation or two, find their level, and then may possibly treat the sons of the soil with something like decency.

The Professor cannot let large farms alone, to him they appear to be essentially wrong. He considers they are understocked, undertilled, and very much undermanaged. He says a farmer should see the whole of his land every week. Well, our experience is we see most of it every day. It is the custom in well farmed districts, but perhaps does not hold where the Professor lives, that the farmer on his cob gets well round before his dinner, and after his dinner, too; market days excepted. This is on farms varying from 800 to 300 acres. What does the Professor mean by big farms? Perhaps his idea and ours may vary. The country is not all made up of holdings like Withcall.

It is a curious thing that though in all other undertakings the

* "The Story of the Farm." "Rural World" Publishing, Strand.

large manufacturers can outbid the small ones, yet in farming this does not hold. We had thought large farmers were better able to afford the newest machinery, the best class of animal, and the most scientific of manures, but in these pages before us we are told it is not so. It is the man on the 50-acre farm who is to regenerate England. He keeps ten large Shorthorn cows in full milk, he has 20 acres of good grass, 5 acres Potatoes, 5 of roots and Cabbages, 5 of Lucerne (does the Professor know this is not a successful crop north of the Humber), 10 acres to Oats, 5 acres market garden, and in addition he has ten or twelve breeding ewes, two or three breeding mares, three large white breeding sows, and a respectable head of poultry.

Thus is England to be split up into this class of farm. Suitable buildings for each will probably drop from the clouds. Markets will be found at the door (this especially applies to that land, and there is a good bit of it yet, where the nearest railway is seven, eight, or ten miles distant), space and time being no object. If everyone keeps breeding mares we suppose the geldings will find their way to towns, but we well know that if the land be strong, and the cartage heavy, however good the mare there will seldom be a foal.

The Professor acknowledges that the third member of the farming community—the labourer—is in the best condition. Here we agree with him. But we disagree when he tells us that an acre of land will supply that labourer with bread for himself, wife, and four children. No man with an average family, and we take four as an average, can do with less than 4 stones per week, and we doubt whether any midland or south country labourer would make direct use of his own flour, and so save the profit of the baker. About these thousands of acres awaiting cultivation, how many of them would it take (rent free) to support a man and his family? There is no really good land in the market: the inferior is worthless at a gift.

We are glad to see the Professor acknowledges the difference between labourers of the north and south. Will any technical education bring up the average southern to the standard of the average Yorkshireman or Northumbrian? No; the difference is racial. It is a matter of breeding, and climate and surroundings.

We are quite willing to allow that we have much to learn from the Americans, and we do adopt many of their most excellent implements. As to this ploughing business. We fancy we make better work of our fallows in the long run; though perhaps we are slower, we go deeper. Our land needs it; and we have yet to see the full advantage of broadcasting over drilling. Not a harvest comes but proves that after all the self-binder is not an unmitigated blessing, and although the singling machines of the Continent reduce the price of singling to 7s. per acre, we still can manage to get it done hereabouts for 6s. 6d.

The market gardening scheme is very nice on paper, but how would it answer if we all, or at least those of us near a station, were to put up glass by the 100 feet? We fear we should soon defeat our own ends. When we were successful, many of our perishable commodities would be a drug in the market, and when our crops failed, as they might, where should we be then?

There is not much encouragement for the dairy farmer when he receives the princely sum of 6d. per gallon for his new milk, or even 1s. 3d. per lb. for butter. There is, however, a great and wide field for improvement if we could persuade our legislators to enact some workable laws *re* the importation and sale of foreign produce as home grown. We labour here under a terrible disadvantage, and by "we," the consumer as well as the producer is meant.

It is very easy to talk of the possibility of growing 23 tons of Potatoes or 100 tons of Mangold per acre; no doubt such crops have been grown on very small plots. We have had personal experience that the result of measuring and weighing a small selected portion of a field of roots can be very misleading, and we think that record crops should not be considered when forecasting practical results. Outdoor cultivation, however good it may be, must always be subject to weather influence, and favourable seasons cannot always be expected. The fact that whilst Professor Long so strongly argues in favour of small farms, he recommends an—apparently unlimited—extension of cultivation under glass, shows what an important part the weather plays in British agriculture, for weather control appears to be essential to command the greatest measure of success.

WORK ON THE HOME FARM.

There is a general consensus of opinion that there has been sufficient rain for present needs, and that a fine November would be a blessing. Though not continuously wet the last few days have brought us frequent heavy showers, which have been decidedly hindering to farm work. It is very annoying to see men and horses driven home from a field a mile away by heavy rain, and in an hour or so to find the sun shining as brightly as ever.

We must say that our men are not readily beaten off by weather, but when rain descends like a shower bath they are quite justified in leaving work. The difficulty of the farmer lies in not always having a ready job for all hands at short notice. Of course he can send his daily labourers home. It is a case of no work no pay with them. But the frequent dismissal of men in such a way tends towards a state of backwardness on a farm which makes the saving of a pound or two in wages turn out more expensive than economical in the end.

There being a possibility of war with France, many farmers with a heap of Wheat in the granary will be inclined to hold it for better prices. New Wheat, however, does not keep well during damp autumn weather, so a wet afternoon may be profitably employed in winnowing over the Wheat in the granary. Sack-mending will usefully employ a spare hour or two, as will the painting, varnishing or tarring of indoor woodwork, gates, doors, or partitions between yards.

Farm labourers should be taught the use of tools, both bricklaying and carpentering, as a rough job may often be done in the time that would be taken to fetch a carpenter, provided only that the labourer has two or three tools handy, and the knowledge to make good use of them.

The old trade exclusiveness has been much broken down, and we know of several farm labourers who have taken up a trade without apprenticeship or special training. Such being the case, surely it is not too much to expect labourers whilst still on the farm to qualify themselves to do odd jobs when required without delay, which would otherwise require the services of a tradesman. The saving of time might be most important, not to speak of the difference of wages as between unskilled and so-called skilled workmen.

DESTROYING CHARLOCK.—Referring to the note by Mr. W. Pea some few weeks ago, I may say that we do not use lime. The remedy is simply 2 lbs. sulphate of copper to 10 gallons of water, used through an "Eclair." It takes about 50 gallons to spray an acre. When we sprayed a large proportion of Charlock was in full bloom. The solution "burned" the foliage, bloom, and all the smaller seed vessels, but some of the older with tough skins were not much injured.—**SYDNEY LEE.**

WEBBS' BARLEY COMPETITION.—The awards in the annual competition for the prizes for Barley offered by Messrs. Webb & Sons, The Queen's Seedsmen, Wordsley, Stourbridge, have just been made by the judge, Mr. Thos. Taylor, North Worcestershire Breweries Co., Ltd., Stourbridge. They are as follows:—Class 1, champion prize, open to the United Kingdom, £25, Mr. A. E. Day, Orchard Hill, Stratford-on-Avon. Class 2, open to Salop, Stafford, Hereford, Worcester, and Warwick. First prize, £15, Mr. A. E. Day, Orchard Hill, Stratford-on-Avon; second prize, £10, Mr. E. Hailes, Harvington, Kidderminster; third prize, £5, Mr. F. Horne, Bobbington, Stourbridge. The conditions of competition stipulated that the Barley should be one of Webbs' varieties, and grown with the aid of Webbs' Special Barley Manure. The samples exhibited were of excellent quality, and bore testimony to the high value of both seed and manure.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.			IN THE DAY						Rain.
1898. October.		Barometer at 32°, and Sea Level	Hygrometer		Direction of Wind.	Temp. of soil at 1 foot	Shade Tem- perature		Radiation Tempera- ture.		
			Dry.	Wet.			Max.	Min.	In Sun	On Grass	
		inches	deg.	deg.		deg.	deg.	deg.	deg.	deg.	inches.
Sunday	23	30.131	54.8	53.0	S.W.	55.6	63.7	50.9	89.9	44.1	—
Monday	24	30.101	53.9	51.9	W.	54.8	60.9	51.8	94.1	45.2	0.101
Tuesday	25	30.053	51.6	49.2	W.	53.1	58.2	45.2	68.2	38.7	—
Wednesday	26	30.073	56.3	54.7	W.	53.7	61.1	52.1	74.1	50.3	—
Thursday	27	30.066	57.2	54.7	W.	53.9	61.1	54.1	74.2	48.9	—
Friday	28	29.965	55.3	52.9	S.	53.9	60.9	49.2	83.9	42.1	0.011
Saturday	29	29.728	58.3	56.9	S.	53.7	61.7	50.1	70.7	43.9	0.839
		30.017	55.3	53.3		54.1	61.1	50.5	79.3	44.7	0.951

REMARKS.

23rd.—Sunny day, and moonlight night.
 24th.—Fine and generally sunny day; heavy rain at 7.15 P.M.
 25th.—Generally overcast, with spots of rain once or twice; sun for a few minutes at 10.30 A.M.
 26th.—Generally overcast, but a little sun between 9 and 11 A.M.
 27th.—Fair day, with some sunshine in morning.
 28th.—Fair early; sunny day; a little rain in evening.
 29th.—Overcast early; rainy from 11 A.M., especially from 0 to 1 P.M., and torrents of rain from 8 P.M. to 10.30 P.M.
 On the whole fine and pleasant, with average temperature, but heavy rain at the close.—**G. J. SYMONS.**

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Journal of Horticulture.

THURSDAY, NOVEMBER 10, 1898.

THE JOURNAL OF HORTICULTURE can be obtained from the Office, 12, Mitre Court Chambers, Fleet St., London, post free for a Quarter, 3/9. Editorial communications must be addressed to 8, Rose Hill Rd., Wandsworth, S.W.

ABOUT LILY OF THE VALLEY.

TO write of forcing Lily of the Valley during the autumn and winter is perhaps to some extent a misnomer, seeing that they may be now induced to flower at any season of the year without being subjected to a higher temperature than is maintained in an ordinary greenhouse. The placing of retarded crowns upon the market has revolutionised the details of culture connected with the production of the fragrant Lily during the autumn and winter months, and explained the mystery which formerly clustered round fine potfuls in flower during August and September. When once the secret was out cultivators speedily took advantage of the new method of producing Lilies in winter.

Although retarded crowns cost more per thousand than the ordinary ones, they are cheaper in the end for two reasons—viz., much less fire heat is required to bring them into flower, and every sound crown may be relied upon to prove satisfactory if properly managed. In the days when ordinary crowns were exclusively used, what a tale of disaster many could tell about their attempts to flower Lilies by Christmas. Who has not seen numbers of crowns potted carefully, placed in strong bottom heat, kept dark, and treated in many respects in the recognised way, and yet fail to start, but instead remain a hard plump crown throughout the winter. Such a matter has puzzled several, but the true explanation might invariably have been found in the fact that the crowns had received no rest. One sharp frost upon them before they were taken into heat would have made matters satisfactory.

But let us return to the retarded crowns. Although it is not necessary to employ heat to bring them into flower, they are so accommodating that they will bear strong heat with impunity. This, of course, is a great advantage, because in these days of "lightning speed"—when everything must be done quickly in both private gardens and nurseries—it is often not possible to look far ahead in anticipating demands. Let us suppose that in a fortnight hence we require considerable quantities of Lilies in flower; by obtaining retarded

crowns at once, potting, and placing them where they receive a bottom heat of from 90°, with proper treatment the flowers will be forthcoming at the required time. With ordinary crowns such a feat could not be accomplished, and, moreover, as the former come on so quickly, much valuable space is economised in forcing houses, for two or three crops of flowers can be produced in a given space in the time taken to flower one set of crowns under the old system.

Other great advantages are that the old difficulty of producing abundance of leaves simultaneously with the flowers is entirely overcome, and while the present mild weather prevails, a regular succession of flowers may be kept up without placing the plants in houses with a high temperature; indeed, were it not for the difficulty of preventing the flowers from damping they might be brought on successfully in cold pits from start to finish. I regularly obtain a consignment of crowns each week, and as they are invariably satisfactory, a few remarks upon my method of treatment may prove useful to Journal readers.

The compost I employ is a simple one, consisting of old hotbed manure thoroughly charred, with a liberal admixture of sharp sand. If we were to make a regular practice of burning all potting soils intended for winter and spring flowering plants, I am convinced we should hear fewer complaints about plants and bulbs failing to start freely, for nearly all soils, especially those containing much decaying matter, are literally teeming with minute insects which are ever ready to prey on tender roots in the early stages of development.

As soon as the crowns arrive they are unpacked, the points of the roots removed with a sharp knife, and potting commences forthwith. I usually employ 6-inch pots, placing from twelve to sixteen crowns in each. A little deft manipulation is necessary to distribute these evenly in the pot and work in the soil between them. Those, however, who have a conveniently long forefinger can with practice soon become experts at the work, others may need a stick to get the soil between the crowns after they have been fixed in position. When the potting is completed a thorough watering should be given, and if flowers are required as quickly as possible, the crowns may be at once placed in close frames in a forcing house; if not required in flower till a month or six weeks hence, a cool house or pit will suit them admirably.

When the crowns are placed in strong heat to bring them on rapidly, they require close attention or they will soon "go wrong." I usually place about 3 inches of cocoa-nut fibre refuse on the slates above the hot-water pipes, but instead of plunging the pots I simply stand them upon the fibre, for I find if a regular heat is maintained the progress made is rapid, and there is practically no danger of getting the roots injured by too much heat. The soil in the pots should, however, be kept constantly moist, otherwise both leaves and flowers will quickly show signs of distress; on the other hand if the temperature at any time is allowed to fall rapidly while both plunging material and soil are thoroughly moist, a great check follows, which is usually shown by some of the bottom bells turning yellow.

This shows clearly that a regular bottom heat, and moisture in proportion, are points of vital importance in the forcing of these ever popular flowers. Lily leaves form some of the most pleasing greenery for associating with all white flowers, and are usually in most request when the colour is pale rather than green. To secure this desirable tint in the foliage, as well as to help forward the rapid development of the flowers, the propagating frames in which they are forced should be kept dark till two-thirds of the flower bells have expanded, then if they are gradually inured to light, a firm texture in the flowers and the desired tint in the leaves will be secured.

In the forcing of ordinary crowns a somewhat different method of procedure should be followed. Since the advent of retarded crowns the ordinary ones are not generally employed for very early forcing; the end of December or early in January is soon enough to make a start with the latter. As soon as the crowns are received they should be plunged in fibre in the open air, leaving the crowns fully exposed, then after they have had one fairly sharp frost upon them they are ready for potting and introducing into a strong bottom heat. In this case I like to employ fully 6 inches of fibre, and plunge the pots in it. A bottom heat of at least 90° must be regularly maintained, and some of the pots ought occasionally to be lifted out to make sure

that neither the plunging material nor the soil in the pots is dry at the base. Should this occur, and not be quickly attended to, failure is inevitable. The necessary treatment in other respects is the same as that given above for retarded crowns, but of course ordinary crowns require at least double the time to fully develop their flowers.—
MARKET GROWER.

BULBS AND THEIR CULTURE.

(Continued from page 314.)

OUTDOOR CULTURE.

WHILE the bulbs which have recently been potted are snugly located beneath the plunging material, let us turn our attention to operation in the open air. What would our gardens be in the early spring months without the bright cheering beauty which bulbous plants supply? In the flower garden proper, where opportunities for massing occur, what a glorious sight beds of Tulips, Hyacinths, or Daffodils present on a fair April or May day. How charming, too, is the present happy style of planting Snowdrops, Daffodils, Iris, Crocus, and even Hyacinths on grassy plots beneath trees, or by the edges of drives and walks. The expense incurred is infinitely little compared with the pleasure to be derived from the practice.

Bulbs for such purposes may now be purchased very cheaply, and when once the planting is done little further trouble is incurred for years, while an annual array of showy flowers, springing from their grassy carpet, may be unfailingly secured. The mixed flower border, too, is singularly incomplete in spring time if bulbous plants are not to be found there in quantity. When planted deeply in such positions they may remain undisturbed for years, and as the foliage dies down in summertime, convenient spaces are set free for planting annuals or other summer flowering plants. In truth, no matter how many bulbs one may have, opportunities for utilising them to advantage can generally be found, and when their culture is taken up with zest, age does not alter or fashion obliterate our love for the "gems of spring."

Those who are fortunate in having a light rich soil, possess an ideal one for bulb growing. At the present season, as soon as flower beds are cleared of their summer occupants, the soil should be prepared for planting bulbs. A dressing of well-decayed manure and a sprinkling of soot ought to be given previous to digging. Old hotbed manure, which has been turned a few times to sweeten, answers the purpose well; manure in a fresh state should never be used in beds to be planted with bulbs, as their tender fleshy roots will not penetrate it until by decay it gradually gives up to the soil the plant food it contains.

During ordinary seasons the soil is quite moist in October, and when such is the case, I like to dig on a fine day, allow the surface of the soil to dry for a few hours, then tread and level with the rake ready for planting, because if the opportunity is once missed, days, and sometimes weeks, elapse before the soil is again dry enough for proper preparation, which, of course, greatly delays the work of planting, and early planting is, above all things, essential to success in bulb culture. In dealing with heavy soil, plenty of burnt refuse and old potting soil should be incorporated with it as the work of digging proceeds, and if frosts are likely to occur the soil should be thrown up roughly to their ameliorating influence for a week or ten days before the bulbs are planted. Such attention given annually for a few years will reduce a stubborn soil to a free working condition suitable for the roots of bulbs to permeate rapidly.

Now we come to the question as to what form of arrangement shall we adopt? Tastes differ much in this respect, and fortunately in these matters we do not now allow ourselves to be bound down by any "unalterable laws" framed by dogmatic authorities. Still there are certain important points which have to be borne in mind. Let us suppose we have a taste for masses of colour, and decide to plant a certain group of beds with Tulips of two distinct colours, each bed to contain one colour only, the alternate beds being white and yellow, or scarlet and white. To insure the desired effect it is necessary that the two varieties planted should flower simultaneously. There are plenty of good scarlet, white, and yellow Tulips suitable for bedding purposes which, if planted at the same time, would flower at widely different periods. When this happens our cherished ideal of a blaze of colour is shattered, in its place we get a succession of patches.

Again, beds of mixed Tulips, when the colours are well blended or contrasted, form pictures of wonderful beauty, which the eye can rest upon and admire for an indefinite time, instead of—as in the case of masses—seeing its whole beauty at a glance; but the picture is marred, we might say entirely spoilt, if the flowers of some of the varieties employed have faded before others begin to open. Here, again, we want simultaneity of flowering.

Some readers may here exclaim, Yes! but it is a most difficult matter to select from the numerous varieties catalogued those of suitable colour which flower at the same time. Granted, it is for those who do not make special study of the matter; but, good reader, you need not puzzle your brains about the matter, it has been thought

out for you already, and any nurseryman of repute will supply you with bulbs of all descriptions suitable for bedding purposes which flower simultaneously. Give them the list of the colours you require and reliable bulbs will speedily be forthcoming.—H. D.

(To be continued.)

THE CODLIN MOTH—AN APPEAL.

REFERRING to my appeal on the above subject on page 181 in "our Journal," I have been looking for a response in every week's pages since, but up to the present issue just to hand not one word of reply has been given. Has neither Mr. G. Abbey nor any of your experienced and able contributors no guidance to offer? then surely the Editor cannot fail to say what can be said in answer to my appeal. To have large quantities of the finest specimen fruits of Cox's Orange and Ribston Pippins, to say nothing of Doyenné du Comice and others of the finest Pears destroyed after the closest and best culture, is an evil seeking a remedy from the best judges in the land.—S. S.

[We entirely sympathise with our correspondent, but must remind him that we complied exactly with his desire. He did not request editorial information, but particularly asked that his letter should be inserted, thus leaving the matter in the hands of our readers. We supplemented it by expressing our readiness to publish "records of experience" by which the injury caused by the pest in question could be mitigated or averted. We did not expect to be overwhelmed with responses, but thought it possible that some fortunate grower might have made the hoped-for discovery of the easy eradication of the destructive visitant.]

Mr. G. Abbey, whom "S. S." mentions, in all probability thought the same, and therefore did not repeat what he has more than once advised in dealing with the enemy; nor did we ask him to do so, or we know he would have complied. Until the Sirdar made a clean sweep of the Dervishes no one knew exactly how that could be done, and we had only the faintest of hope that some modern conqueror of the enemies of fruit trees had distinguished himself by sweeping away the codlin moth by some easier and more certain means than had hitherto been published.

We strongly suspect that the enemy under notice cannot be mastered by any one method of procedure, and not at all in the absence of repressive measures perseveringly and systematically carried out. We agree with our correspondent in his observation on page 181, September 8th, that "continually picking up fallen fruits and destroying them is troublesome, and not (alone) effective." It is one means, and a certain one, of reducing the enemy, but its effectiveness depends on the promptitude in picking up the fruits with maggots in them, as all have not, while those within the fruits quickly emerge after they fall to the ground. The moth often attacks with great persistency some particular tree, and we found in a case of this kind that when the first maggoty Apple fell, by at once shaking the branches numbers of others were brought down with the enemy in them, and these promptly removed and destroyed, the emergence of numbers of moths was prevented.

Our correspondent has perhaps not had an opportunity of watching pigs when turned into an orchard in which some of the trees are infested with the pest in question. We have, and noticed they soon find out such trees, and do not wander very far from them; then when they hear an Apple fall, as they quickly do, there is a race for a speedy end of it and all it contains. That is an example of quick picking up. Pigs have been found of enormous value in old orchards into which they could be turned, by decimating the moth, and in other ways. In most instances, however, the invader has to be fought without the aid of the humble but useful pig.

Many caterpillars leave the fruits before these fall, and crawl downwards till they find a suitable lurking place in the bark to enter into the chrysalis state; others let themselves to the ground by a fine web, and crawl up the stems of trees for the same purpose. The moths emerge the following season, and deposit eggs near the eye of the incipient fruits. When the petals fall the larvæ which result tunnel to the core, eat till they are satisfied, spoil the fruit, and crawl out to find a favourable place for their natural change and hybernation.

Knowing the habits of the intruder active persons tie folds of sacking round the stems with a piece of string or wire, leaving a flap above and below the string, examine the shelter provided frequently, and crush the larvæ. Hay bands are also used for the same purpose. The banding should be done in June and remain till November, then be removed and burnt to destroy the chrysalids.

The rough bark is also well scraped in the winter, caught on sheets or mats, and burned. Then the trunks and thick branches of infested trees are washed with a caustic solution applied with a limewash brush, and all the smaller branches sprayed with the solution. This is made by dissolving a pound each of caustic soda and pearlash in 10 gallons of water. Some American, followed by English, authorities advocate reducing the pearlash to about half, and adding half a pound

of dissolved softsoap. This addition of soap may be good, but the full quantity of pearlash is safe for hardy fruit trees in winter.

Then follow spring and summer sprayings with Paris green in paste form, 1 oz. of the paste to 20 gallons of water, or 1 lb. to 300 gallons, the liquid to be constantly agitated for keeping the arsenic in suspension, for it will not dissolve, and in the absence of stirring or constantly shaking the knapsack sprayer on the man's back, sinks through the water; thus that at the top of the vessel is too weak in the poison to be useful, while that towards the bottom becomes too strong to be safe.

As far back as 1887 Mr. Thomas Meehan, of Philadelphia, wrote to us that, "in some regions of America it is impossible to get an Apple, because of the codlin moth, but spraying with Paris green secures a crop." Mr. Leonard Coates also subsequently wrote from California, "We spray our Apple and Pear trees, as soon as the fruit is set, with Paris green (at the strength above stated). The worm as it hatches out dies after its first meal at the poisoned end of the young fruit." If rain falls soon after the application, one or two subsequent

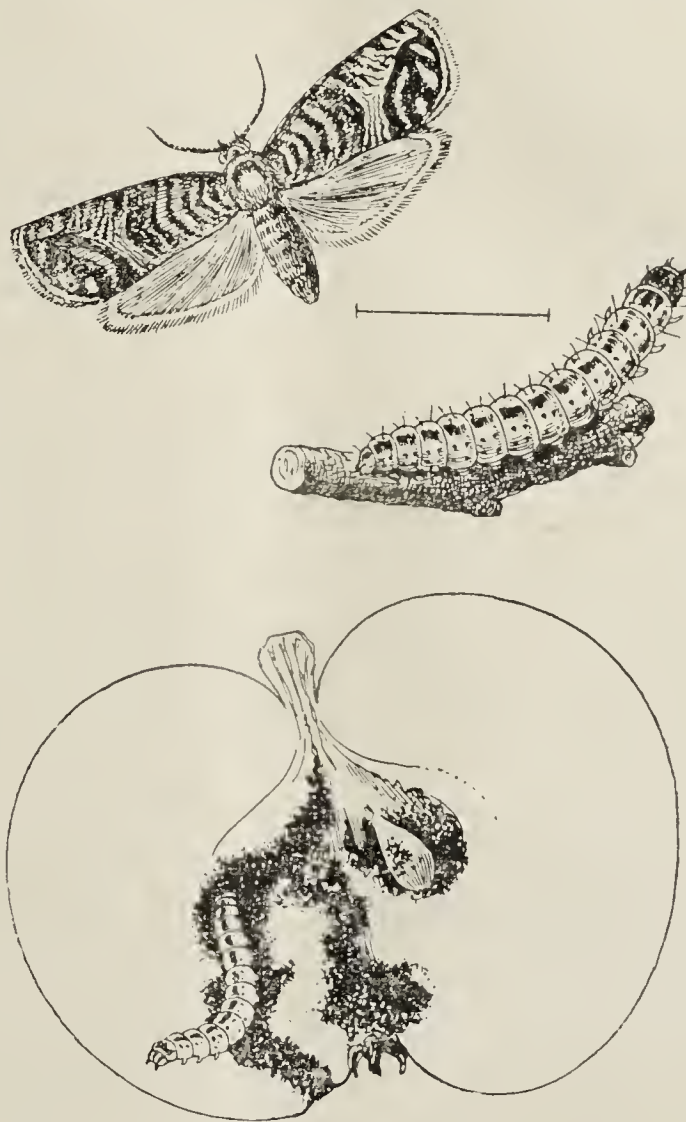


FIG. 61.—CODLIN MOTH (*CARPOCAPSA POMONELLA*).

References.—Upper figure, moth enlarged; line, natural expanse of wings. Central figure, grub enlarged on Apple shoot. Lower figure, larva in Apple, showing entrance by the eye channel and destruction of pips, with channel to the rind serving as an outlet.

sprayings may be needed. The work ought to commence when the trees are in blossom, or bees would be killed; it is after blossoming that the codlin moths commence operations which often end so destructively.

The most complete riddance of this foe of the Apple and Pear grower within our recollection was effected at Glewston Court, by Mr. S. T. Wright. He used the caustic solution when the formula first appeared in the *Journal of Horticulture* for the destruction of scale and cleansing the trees generally. This was effected to his great satisfaction, and the work was regarded as a necessary part of the winter routine. Not less important was the spraying of the trees with Paris green in the spring for poisoning the voracious caterpillars of the winter moth. The combined operations effected the immediately desired objects, and more, for they completely ousted the codlin moth, destroyed the eggs of red spider and other enemies, till it was difficult to find an insect or caterpillar of any kind on the thousands of trees and bushes which were and still are so profitably grown. Let "S. S." act with the same persevering determination, and he may, as we trust he will, succeed equally well. He can at least no longer complain of lack of information, and we certainly do not complain of his not unnatural disappointment as above expressed. For the above illustration from the "Fruit Growers' Guide" we are indebted to the courtesy of Messrs. J. S. Virtue & Co., Ltd.]



WHITE CHRYSANTHEMUMS.

Good white Chrysanthemums are among the most useful, acceptable, and profitable of flowers. A selection of blooms of the best quality and of the largest size are indispensable to the exhibitor of cut blooms, white blooms always being necessary to accompany and afford contrasts with coloured blooms.

It is gratifying to find white varieties so plentiful, and though the Japanese section contains them in the largest numbers, yet there is a fair proportion in the incurved, Anemones, Pompons, and singles, but very few in the reflexed class. Needless to say, white varieties always come in useful, whether large or small in size, or at whatever period they are produced. Outdoor blooms, when bright and fresh, are at any time in demand. They may be had in profusion in August, September, and October, as a rule, if suitable varieties are planted, while bush plants may be grown in pots to bloom simultaneously, and to succeed them in the later days of October, in November, and December as indoor decorative plants, affording a display as well as flowers for cutting.

Knowing the popularity which Chrysanthemums have attained to, I have thought it might be interesting if a list of some of the best and most popular white varieties in all the sections were presented in an article before the numerous readers of the *Journal of Horticulture*, whose interest in anything and everything that pertains to Chrysanthemums is now at fever heat.

Commencing first with the early flowering section, the most generally useful variety is Madame C. Desgranges, a dwarf-growing and pure white Chrysanthemum. It is amenable to various methods of culture, by which blooms may be secured of various size, and in limited and unlimited numbers. Large blooms are secured by disbudding, but when size is no object plants allowed to grow freely and flower unrestrictedly the results are satisfactory. Alice M. Love is a good and useful early flowering white, which frequently commences to bloom in July or August, and continues later. Harvest Queen, Ivory, Mrs. Cullingford, Lady Fitzwigram, and Lady Selborne are among the best white blooming varieties for early supplies, and all are undoubtedly good, especially for pots.

The general Japanese varieties contain the bulk of the white flowered Chrysanthemums. The largest in size and the most artistic in form are found in this class, which also contains flowers remarkable for quality, richness, and clearness of colour. The following are almost, if not all, pure white. Baronne Ad. de Rothschild is a remarkably good habited variety. Madame Carnot, a strong and succulent grower, produces blooms of extraordinary size when the plants do well; the previous variety has blooms similar in style. Madame Louis Remy, a sport from Mrs. C. H. Payne, is a superb white of much promise. Beauty of Exmouth is good, but not seen so often as a few years ago; when well grown the colour is pure and the form of flower graceful. C. B. Haywood is a large flowered white which does well in 7-inch pots. Elaine is one of the best of the oldest varieties. It became firmly established years ago as superb in purity of colour and regularity of shape and outline, that it still occupies a leading place in collections of decorative varieties. It is now discarded as an exhibition variety. Similar remarks apply to Mdle. Lacroix, which is an earlier bloomer and has longer petals. Both are good representative whites of the older varieties. Emily Silsbury is an excellent early bloomer of recent introduction, a good milk white variety of the Japanese reflexed class. Kentish White and Lady Esther Smith are two fairly early dwarf varieties. L. Canning is of similar habit, but late; it is an excellent white when blooms can be secured in perfect condition. Madame Ad. Chatin is a handsome Japanese incurved of dwarf habit.

Niveus is a similar variety to the last in the habit of the plants, also the purity and style of the blooms. Madame Chas. Molin gives very clear and handsome blooms about the size and form of V. Morel. Madame Gustave Henri produces substantial flowers of large size on plants of dwarf habit; the petals are long and tubular. Madame Phillipe Rivoire, a last year's introduction, is worthy of the high position it occupies now as an exhibition variety. Madame Thérèse Rey is a pure white with cream centre. It is a variety of first-class quality, but not quite so indispensable for exhibition as formerly owing to recent introductions. Lady Byron is a beautiful and charming white. Other good varieties are Mutual Friend, Mrs. C. Blick, Pelican, Stanstead White, and Potter Palmer.

Two other varieties of merit demand attention from all classes of growers—namely, Simplicity, a prominent large-flowered white, rather

tall in growth; and Souvenir de Petite Amie, a dwarf-growing variety, one of the most compact among the Japanese. It produces excellent pure white flowers, of superb form and quality.

The incurved varieties are not numerous which are pure white. The following answer that description:—J. Agate has large and perfect shaped pure white blooms. Abbot's White is a very dwarf grower; the petals are broad, and curl in a peculiar fashion, which has given rise to the descriptive name of Attorney's Wig Chrysanthemum. Duchess of Fife, a strong grower, and reaches the height of 6 feet, producing white flowers of large size. Empress of India is one of the oldest and best of white incurved varieties. Ma Perfection is a newer variety, having been introduced by Mons. Calvat in 1896. It is one of the few dwarf habited incurved varieties, but produces beautiful white incurving blooms.

A collection of white varieties in this section would not be complete without Mrs. G. Rundle, which is one of the small exquisitely formed flowers. White Beverley and White Globe are old but excellent varieties.

White reflexed varieties are few. The best are Boule de Neige, which is dwarf, and has a reputation for lateness; Elsie, a creamy white variety, rather early, small, but extremely useful; Emperor of China is blush white; Hetty Dean, pearly white; and White Christine, frequently named Mrs. Forsyth.

Among the large-flowering Anemones one of the best is Fleur de Marie, very pure white. Other good ones are Lady Margaret and Madame Robt. Owen, the latter very neat and distinct flower. Japanese Anemones include Dame Blanche, pure white; James Weston, white, sulphur centre; and Mdle. Cabrol, tinted white. Anemone Pompons include Aglai, blush, with white centre; Emily Rowbottom, creamy white; Late Duchess, pure white; and Madame Montels, white, yellow centre.

Pompons proper are represented by the old white Cedo Nulli, a bushy growing variety; La Purété, Maid of Kent, Mdle. Marthe, Purity and Snowdrop, both very similar flowers, but the latter is the taller grower, and is usually late. Two other white varieties are Sœur Melanie and White Trevenna.

Single white Chrysanthemums are extremely pretty, and well adapted for decoration and cutting. Miss Mary Anderson (fig. 63, p. 365) takes a leading place; it is of medium size and of good quality. Mrs. C. Hawtry is a large white. Purity, a pure white, is another good variety; so also is Snowdrift, Christmas Cheer, Agnes Peters, and Miss Cannell. Jane, or Snowflake, is also a valuable variety, and should be included in a collection of single Chrysanthemums.—E. D. S.

INCURVED AND JAPANESE.

I HAVE no doubt but that the members of the N.C.S. Floral Committee have a good knowledge of the flowers they have to adjudicate upon. But all the same I fail to understand on what basis they determine the sections into which certain new flowers shall be placed when the distinctions in them are so minute as to defy elucidation. Looking over the incurved at Kingston the other day, shown in the best stands, I could but note how much the old and true incurved forms are being ignored and displaced by others that are to all intents and purposes incurved Japanese, but have by the N.C.S. Floral Committee been included in the incurved section.

It is true some first-class growers, and especially dressers who can pull the recalcitrant petals into place, and pluck out the many pendant ones at the base, can produce these flowers in fairly good form, but as seen undressed they are in most cases not one whit more incurved than are some regarded or classed as Japanese, such as Robert Owen, Duke of Wellington, Louise, Madame Fatzer, Queen of Buffs, Robert Powell, Mad. Desblanc, and some others. How coarse when compared with the incurved of other days are Perle Dauphinoise, Leonard Payne, Duchess of Fife, Major Bonnaffon, Mad. Ferlat, Lady Isobel, Globe d'Or, Ma Perfection, and some others, all of which need much dressing to make them fit to face the judges. Size in incurved and coarseness are quite displacing the fine old incurved qualities of other days. Why not now let any incurved flower be shown as an incurved without restriction, leaving the merits of each flower to the judges?—A. D.

NATIONAL AMATEUR GARDENERS' ASSOCIATION.

AT the monthly meeting of the National Amateur Gardeners' Association, held at Winchester House, Old Broad Street, on November 1st, Mr. A. H. Needs won outright the silver challenge cup for twelve Japanese Chrysanthemums. The blooms were good in all respects, and well worthy of the prize.

HENRY WEEKS.

ON page 343 you state that a certificate was awarded to Mr. Wells for Chrysanthemum H. Weeks, whereas it was awarded to myself. As the same error occurs in the "Garden" I take the first opportunity of correcting it.—H. WEEKS.

CHALLENGE VASES AND TROPHIES.

ALTHOUGH "E. M.," with his unique experience of Chrysanthemum shows, regards the offering of these trophies with great favour, I am not at all sure that they are so very popular with the gardener exhibitor, though where the desires of the employer are concerned no doubt these trophies are highly esteemed. I have frequently felt, regarding their original cost, that the product of offering them is not worth the money sunk in the purchase. Take the very fine challenge vase just finally won at Kingston by Mr. King. It has had an existence of three years only, costing originally 25 guineas, and a total of money prizes added and taken of £42, or a total of £68 5s. The produce has been about four competitors yearly, or a total of twelve stands of forty-eight blooms in competition. Such a class with similar prizes should bring fully ten competitors each year and "good" material. That is an adjective that cannot be applied to some of the exhibits seen during the past few years.

I have no doubt whatever but that quite as good results would have been obtained had the cash alone been offered and no vase. Two previous 25-guinea vases were won each in two years, thus the Society got in return very little for the outlay of 50 guineas, besides money prizes. But if we elect to put aside, as of small importance, the views or desires of the gardener in relation to prizes, and think only of those of the employer, who may be pleased to secure a fine vase as a trophy for his sideboard, then a totally different aspect is presented. But it is not possible for the Kingston, or any other society, unless it be one, exceptionally wealthy too, to offer a valuable challenge vase every year. So long as there is combined with any trophy the condition that it must be won twice, though not necessarily consecutively, to entitle any competitor to own it, there must always be associated with it that somewhat exasperating fact that being won and owned for a year it may pass to someone else for a year, perhaps for good, or perhaps be won back again by the first winner. That being so, why make it a condition that it shall be won absolutely at all, for furnishing these costly trophies constitutes a very heavy tax on executives.

I should very much like to see the Kingston Society take up my proposal of last year, and promote a county of Surrey challenge shield or trophy, the competition open to the county, and to be won for the year only. The shield should be of silver, and have on it some twenty at least of small compartments, in which could be inscribed the names of the winners each year, until all were filled. Then it should become the property of the County Council, and be placed in a glass case in the fine hall at Kingston. Such a trophy there is not a gentleman in the county but would be proud to win. If it could be procured by subscription amongst the members of the County Council, and have a value of at least £50, it would form a superb object. Of course money prizes should be added each year.

I should like to see the present very objectionable practice of coupling the Japanese and incurved blooms in one class abolished. Apart from the great discordance that exists in the form and appearance of the flowers, the smaller globular incurved have by no means the same attraction for the public that the Japanese have. Still further, this coupling of the two sections limits competition, as so many can and do grow Japanese, but care not to grow the far less attractive incurved. A class for thirty-six Japanese, distinct, would be far more popular, and enable all the blooms to be judged on the same basis. Now a moderate stand of incurved sometimes outweighs a good stand of Japanese. Certainly every executive can do as it likes, but if trophies are to be continued, they must be of a nature to command competition, and especially to secure the co-operation of gentlemen who are employers.

I cannot conceive of any better plan to secure this than to establish county challenge trophies at the leading Chrysanthemum Show in each county, and so far as Surrey is concerned no show has higher claims on the county than has Kingston. I fear very much that Chrysanthemum exhibiting is too much identified with money and not enough with pure horticultural love. I should like to see true appreciation for a beautiful flower dominating the mercenary aspects of exhibiting. Show committees have done much to breed this pecuniary aspect of competitions by offering such costly prizes, so that men's instincts of cupidity have been too keenly aroused. Unless higher considerations come into play Chrysanthemum competitions may soon come to grief.—A. D.

G. J. WARREN AND MRS. W. MEASE.

It is pleasing to find that these two sterling varieties, both sports from Madame Carnot, are coming true in character and are distinct in colour. In form they are naturally the same. I consider this trio the finest set of Japanese Chrysanthemums ever seen. Not a fault can be found in any of the blooms, as they possess size, refinement, and form. The colour, too, is of the best, white, yellow, and primrose; perhaps an improvement might be suggested in

the habit and manner of bud formation and growth. This, though, is much due to cultivation, controlled to some extent by climatic influence.—E. M.

CHRYSANTHEMUMS IN THE NORTH.

IN addition to those already referred to in previous issues of the *Journal of Horticulture*, I have had the pleasure of visiting, during the last fortnight, most of the best collections in the following districts—viz., Hessle, Leeds, Bradford, Batley and Pontefract, and writing these notes on the last day of October, within a week of the exhibitions, it is with pleasure we are able to confirm the hopes of a brilliant season held out on an earlier date.

Everywhere the blooms are opening freely, and we may confidently look forward to meeting on the exhibition boards highly coloured and massive specimens in abundance. Novelties and recent introductions are more in evidence than in any previous year, and on account of their general excellence will at least stimulate as much interest as ever. It is pleasing to note the general first year's success in the trial of new varieties, compared with the uncertainty in results of a few years ago. This is due to the explicit and reliable data published with their description in the catalogues of the leading dealers, so that buyers are able, the first year of trial, to formulate with practical certainty the necessary routine of culture leading to success. This is an immense boon to the cultivator, and it will stimulate confidence in the reliability of the catalogued descriptions of new varieties, and thus repay the dealer in increased business transactions, whilst to everyone concerned it will be an advantage in creating the necessary interest and zest as an important factor in the advancement of the "cult."

SWANLAND MANOR,

The seat of Sir Jas. Reckitt, Bt., M.P., whose gardener, Mr. G. Wilson, is widely known as one of the foremost exponents of the art of plant grouping. In the houses large quantities of the very best material for that purpose are in evidence. One large span-roofed house of Crotons are worthy of a long journey to see, whilst the first prizes won time after time at York, Hull, and other places, have proved to us that, in addition to knowing how to grow such superb specimens, Mr. Wilson can make the best use of them; one of the most pleasing traits in Mr. Wilson's personality being a degree of modesty rarely equalled when winning, and a display of the best feelings to his opponents on the extremely rare occasions when he has met defeat. The Chrysanthemums grouped in the conservatory are quite equal to former years, and a small collection of incurved staged in another structure were developing flowers of high quality.

The following varieties of incurved were especially noteworthy—Globe d'Or, Ernest Cannell, Ma Perfection, Lady Isobel, Mdle. Lucie Faure, J. Agate, Leonard Payne, Mrs. N. Molyneux, John Fulford, William Tunnington, and most of the Queen family. Amongst the Japanese the best were Lady Hanham, Julie Scaramanga, Western King, Snowdon, Robt. Powell, Lady Byron, Phoebus, Emily Silsbury, Louise, Oceana, Dorothy Seward, Mrs. J. Lewis, Baron Ad. de Rothschild, Modesto, Mcns. Ed. André, C. W. Richardson, Princess Ena, Joseph Brookes, Mrs. F. A. Bevan, Lady Ellen Clark, Geo. Seward, Elthorne Beauty, Royal Standard, Mrs. J. W. Barks, and Lady Ridgway.

TRANBY CROFT,

The seat of A. Wilson, Esq., is approached by a long drive flanked on either hand by one of the richest and most extensive collections of Coniferæ in the most robust health. The gardens are under the management of Mr. J. Leadbetter, whose skill and sound management is displayed in every department, and not the least in the extensive kitchen gardens. Immense quantities of vegetables are necessary to meet the demands of the chef in providing for the needs of an establishment where entertaining company on a large scale is practised with an unsparing hospitality.

Independent of the time occupied by the inspection of the Chrysanthemums, fully two hours were taken up in what can only be termed a hurried walk through the gardens and houses. In a large span-roof house lately enlarged we found a remarkably healthy collection of Carnations of the Malmaison type; another full of tree Carnations literally bristling with flower buds, Violets of every variety in abundance in frames. In another house several dozens of Begonia Gloire de Lorraine were a perfect blaze of beauty. In the cool Orchid house a remarkably fine collection of *Disa grandiflora* were starting most vigorously.

In the vineries the Muscats were conspicuous for size of bunch and high finish in development of berry, and transparent amber in colour. Whilst every other department reflects credit upon Mr. Leadbetter, the Chrysanthemums may safely be left to assert their quality on the exhibition boards, where their cultivators always secure a high position.

The prominent incurved varieties are J. Agate, Prince Charles of Denmark, Bonnie Dundee, Mdme. Ferlat, and L'Amethiste. All the

Princess of Wales and all the Queen of England types are exceptionally good. The best Japanese are Edith Tabor, Mdme. G. Bruant, very fine; Gen. Roberts, Mrs. J. Lewis, Australian Gold, Pride of Exmouth, Milano, Mons. E. Rosette, N.C.S. Jubilee, E. Silsbury, Ella Curtis, Lady Byron, M. Ad. de Rothschild, Duke of York, Snowdon, Mrs. Maling Grant, Mrs. G. W. Palmer, Secrétaire Fierens, Dorothy Seward, Duke of Wellington, Royal Standard, E. Molyneux, Mons. Chenon de Léché, International, Eva Knowles, Miss Nellie Pockett, A. H. Wood, Mutual Friend, and Mons. Ed. André.

HESSELEWOOD.

Owing to a change of tenancy since last year's visit to this fine old place we found considerable alterations affecting the gardens, somewhat restricting the opportunities and energies of the able gardener, Mr. Geo. Picker. Nevertheless he was as enthusiastic as ever, and none the less interested in the Mums, although a considerably smaller number are grown than in previous years. They indicate the same intelligent cultivation which brought the larger collection of 400 plants into the first rank in this district, and comprise all the best known varieties.—T. G. W.

MR. H. J. JONES.

MR. H. J. JONES of the Ryecroft Nursery has one of the most extensive collections in the trade, and his plants, which are now in full flower, take up three large greenhouses, through which crowds of visitors were passing when we called, showing that if no man is a prophet in his own country, Mr. Jones is at least well known, and his Chrysanthemums much appreciated in that south-eastern suburb of the metropolis.

Miscellaneous Continental and other varieties are well represented by Chrysanthémiste Bruant, a big golden chestnut bronze Japanese incurved; Madame Léon Teyerick, deep golden ochre yellow with broad florets, forming a good Japanese incurved; Rayonnante, an exaggerated and finer Lilian B. Bird; Miss M. Donaldson, a true Japanese of a delicate shade of pink, pretty, but not over-large; and Dr. Noel Martin, a creamy white Japanese. Others, such as Emile Nonin, golden chestnut incurved; Comtesse de Boulaincourt, yellow Japanese; Abbé Brosson, large white Japanese; Fleur de Lilas, pretty rosy pink, medium size, and a few more are not commonly met with, but deserve to be mentioned. In conclusion, the novelty hunter may do well to keep a look out for such as M. Caillebotte, purple amaranth; Sita, Tatiana, a fine yellow; La Marcadion, incurved, reddish chestnut and golden buff, upon whose merits it is perhaps premature at present to pronounce.

Not large, but very pretty, is the graceful pale pink Mrs. F. A. Bevan; and Mr. Peter Keary, a Japanese with drooping reflexed florets, and of a fine shade of velvety purple, reverse silvery, is also most attractive. A deep golden yellow sport from the well-known Edwin Molyneux ought to be excellent, judging by its present appearance; and for richness of colour Royal Standard, a striking bright crimson-and-gold Japanese, is at once effective and rich. A few others of the best are Mrs. A. J. Baker, large and globular, narrow florets curly at the tips, colour pure paper white; Duke of Wellington, big, solid and globular, a Japanese incurved with broad florets of rich golden bronze; Mrs. L. Humphrey, large Japanese, colour pale primrose or canary yellow; Lady Hanham; Mr. A. Barrett, quite distinct from Mrs. G. W. Palmer, the sport from Mrs. C. Harman Payne, and several others in which, perhaps, individual taste will play a large part in allotting the position they should occupy hereafter.

The seedlings received from Mons E. Calvat during the past season or two comprise a grand-looking incurved called Topaze Orientale, beautifully built, very deep in form, and of a pleasing shade of clear pale yellow. François Coppée, is a deep golden shade with long florets. President Bevan, a noble flower of its type, is big and massive, with numerous narrow grooved florets closely incurving and of a deep golden bronzy shade. Marie Calvat is rather rough and loose, a long-petalled Japanese, colour white, faintly tinted. Le Grand Dragon is one of this season's novelties, very fine long florets, drooping, and of medium width; a rich golden orange yellow faintly streaked with red. The green novelty, Madame Ed. Roger, is curious; and Secrétaire Rivoire, a Japanese of pale yellow. One of the noblest and best of Calvat's 1898 seedlings is M. Fatzer, a Japanese of great size and substance; the colour a deep rich pure golden yellow. Mélusine is white streaked purple, large, but not very taking; while the same cannot be said of General Paquié, which has flat recurving florets, and is of a very pretty and distinct shade of golden terra-cotta. President Nonin is another, somewhat similar in build and colour. M. Hoste is older, a large white Japanese tinted purple.

Some of the Colonials here as elsewhere do credit to the raisers in the Antipodes, and who seem to understand the kind of flower most likely to appeal to English tastes. Oceana, Australie, and Pride of Madford are all well known, and to them must now be added Chatsworth, a fine deeply built Japanese of pale pink; Miss Mary Underhay, one of the finest and best, and of a lovely shade of rich

buttery yellow, an incurving Japanese; Beauty of Adelaide, long florets, colour rosy pink; Nellie Pockett, white; and Miss Vera May Fraser, a charming shade of golden terra cotta, with a golden reverse.

Here there is an unquestionable difference in the two yellow Carnot sports. Both are grand blooms, but G. J. Warren is certainly several shades deeper in tone than the pale primrose yellow of Mrs. W. Mease, which to our taste is by far the more chaste and pleasing. Mrs. W. Popham is big, solid, and substantial, a Japanese incurved, very deep in build; colour pale purple with silvery reverse. H. T. Wooderson, of the same section, close and compact; colour bright deep rosy pink. In yellows Lady Oporto Tait is large, and Mrs. Maling Grant, different in form, a deep golden buff, streaked bronze. Princess Charles of Denmark is golden yellow, James Brooks another, and Mrs. J. W. Barks is a fine bronzy yellow sport from Edith Tabor. Very deep in its own peculiar shade of shiny glistening golden yellow is R. Hooper Pearson, a Japanese with rather broad grooved florets. Lionel Humphrey, of the Japanese type, is large with flat drooping florets of great length; colour deep crimson chestnut, with a golden reverse. Robert Powell, Julia Scaramanga, Vicar of Bray, are but varying and deeper shades of the primary colour of our popular flower.

MESSRS. CANNELL & SONS.

THE Home for Flowers at Swanley has long been noted for its Chrysanthemums, and the blooms on view there at the present time are well worthy of the reputation which Messrs. Cannell have gained in this department of horticultural enterprise.

Among home-raised Japanese of varying shades of yellow Edith Tabor, Ella Curtis, Baron Tait, C. F. Payne, and the fine Carnot sport Mrs. W. Mease must not be forgotten. Lady Hanham, the beautiful Vivian Morel sport, is also first-rate; and in whites we get Mrs. H. Weeks, Lady Byron and Kathleen Rogers, a fine Japanese incurved of good size and substance. Richer shades are shown in Matthew Hodgson and Dorothy Seward, both of which are very fine.

Calvat's novelties of the past and present seasons comprise, amongst other grand varieties, M. Fatzer, a very large deeply built Japanese incurved, close, compact, and solid, colour rich golden yellow. Topaze Orientale is a lovely pale yellow incurved, deep and regular in form. Mdle. M. Expulsion, a large white Souvenir de Malines, large bright brick red, tinted and tipped with gold. In very rich shades of colour Madame Robt. de Massy is of a deep velvety purple with silvery reverse, a Japanese, large and deep in build. Le Grand Dragon, fine Japanese of deep golden yellow, has already been mentioned in the N.C.S. Floral Committee report. Mélusine, very long drooping florets white, shaded purple, is big and deep. Sardou is not large for an incurved Japanese; it has grooved florets of a reddish shade inside with a reverse of gold. A fine yellow is to be found in Tatiana, which has long, drooping, narrow florets, and is of a beautiful shade of golden canary yellow; this promises to be quite an acquisition. Iserette, golden bronze; President Nonin, Australian Gold, Beauté Grenobloise, white; Congrès de Bourges, Madame Ferlat, N.C.S. Jubilee, a fine pale silvery pink; M. Massange de Louvrex, yellow, and the peculiar green Madame Ed. Roger, are all a season older than the preceding, but by no means the worse on that score. General Paquié is a very fine new yellow Japanese, and from the same set comes Marie Calvat, a big white Japanese slightly tinted.

While holding a high opinion of the Continental novelties, we are by no means unmindful of the special claims of our kindred across the sea in far Australasia; and this is the first year we have had such a capital opportunity of seeing so many Colonial novelties at once. We like Mrs. J. T. Tibbs, a pure white sport of Lilian B. Bird; and also Mrs. H. B. Higgins, a fine large white Japanese of a pure creamy shade, very delicate and soft in tone. Mr. T. Carrington is a fit companion for such monsters as Australie and Pride of Madford, to both of which there is a slight likeness. Miss Mary Underhay is a Japanese incurved of very good build; the florets are of medium size, regularly incurving, grooved and ribbed on the reverse; a lovely variety in colour, being a rich buttery yellow. Purple Emperor, as its name implies, is grand, velvety purple, and silvery pink reverse. Wonderful, of the Wheeler type; Euterpe, rosy mauve; Nellie Pockett, white; Mrs. Bissett, S. Kerslake, jun., white; and Miss Vera May Fraser, a lovely shade of terra cotta, exhaust the space at our command for this group.

There is not a great selection in new American seedlings, most of the varieties being acknowledged standard sorts like Mutual Friend, the well-known white; but Pennsylvania, a yellow Japanese incurved, and Barrington, a Japanese incurved, of deep purple with a silvery reverse, are new.

We noticed nothing new or specially meritorious in the Anemone section, which of late years has received very few additions. Curious but unattractive are the new streaked and spotted novelties raised by Delaux. There are several of these, but there is plenty of room for improvement in their peculiar characteristics.



INFORMATION ON ROSES.

WE have received from the Honorary Secretaries of the National Rose Society two neat and well printed pamphlets—one a second edition, revised, of "Hints on Planting Roses," clear, concise, and useful, twelve pages (7d.); the other a "Report of the N.R.S. Conference on Pruning and Exhibiting Roses," including the papers of Mr. W. F. Cooling, F.R.H.S., and Mr. George Paul, V.M.H., with the discussions thereupon, thirty-two pages (1s.), well worthy of perusal and preservation.

ROSE FRUITS.

THAT there is much to be said in favour of including a selection of species of Roses in shrubberies, parks, plantations, and other places is evidenced, not only by their gracefulness and beauty when in flower, but also by the bright and charming effect produced by their fruits in autumn. By a judicious selection, species can be had showing a diversity of form and colour for almost any position. For places where dwarf plants only can be used, there are *Rosa spinosissima* and varieties, *lutea* and *hispida*, bearing large quantities of dark purple—almost black—fruits, of varying size from $\frac{1}{4}$ to $\frac{3}{4}$ of an inch in diameter, and *R. carolina*, *lucida* and *nitida*, with bright red fruits. Among taller growing species suitable for the shrubbery there are *R. rugosa* and *R. pomifera*, with large red fruits—the latter bearing some resemblance to a Gooseberry in shape, and covered with hairs—and the curious Japanese *R. microphylla*, which has fruit an inch across, greenish yellow, sweetly scented, and covered with fleshy spines. Among tall growing species suitable for covering fences, small trees, or unsightly objects, there is a great variety. In this section our common "Dog Rose" and some of its varieties make a fine show. The N. American *R. nutkana*, with oval, red, and yellow fruit is worth a place, as also is *R. hibernica*, with its bright red fruit; *multiflora*, with its racemes of small red fruits; *rubiginosa* and *rubiginosa* var. *major*, which usually produce a fine, highly coloured crop; and many others. In addition to these, there are the recently introduced *rugosa* and *rubiginosa* hybrids, many of which produce fruits quite as large, brightly coloured, and freely as their respective types. These are but a few of a great number that are worth growing.

By planting these and other plants bearing bright-coloured fruits, effective displays are produced at a time when they are most needed.—D. K.

ISLE OF WIGHT.

THE monthly meeting of the I.W. Horticultural Improvement Association was held at Newport on Saturday last. Dr. J. Groves, B.A., J.P., presided over a large attendance of members, who were present to hear a lecture by Mr. F. W. E. Shrivell, F.L.S., on "Four Years' Experiments With and Without Artificial or Chemical Manures." A profitable discussion afterwards ensued, which was taken part in by many of the members. A unanimous vote of thanks was accorded Mr. Shrivell on the proposition of the Chairman, and seconded by Mr. T. Gibbs, C.C., an enthusiastic Island educationalist. Twenty new members were elected at the close of a most enjoyable evening.

The Isle of Wight Chrysanthemum Society held its fourteenth annual exhibition at Newport on Wednesday and Thursday last. The number of exhibits was about up to the average, whilst the standard of excellence was maintained in the cut bloom but not in the specimen plants. The winners of the Chrysanthemum groups were Messrs. A. F. Wolfe, G. Freeland, W. E. Wickens, W. Scott, and J. Chiverton. The ornamental groups were neatly arranged and effective, the prizewinners being Messrs. W. Morris and A. F. Wolfe. The D shape of the groups was a new feature, and much admired. Mr. W. Scott achieved a notable success in winning, for the fifth year in succession, the special prize for the premier specimen plant in the show, with a well-grown *Sœur Dorothee* Souille, which was 21 feet in circumference, and carried 250 blooms. The other winners of the specimen plants were Messrs. E. W. Sheppard, G. Freeland, W. E. Wickens, W. Matthews, T. Brown, and F. Guy. The cut bloom classes were well contested, as were those for table decorations. The certificates of the National Chrysanthemum Society for the premier incurved or reflexed and the premier Japanese bloom in the open classes were both secured by Mr. F. Woods with *Princess of Wales* and *Mons. Panckoucke*.

The non-competitive exhibits consisted of a box of fine Roses grown outside, and a stand of Cactus Dahlias, staged by the Rev. G. E. Jeans; flowering and foliage plants by Messrs. E. Cave & Sons, Newport Nurseries; Apples and Pears by Mr. H. Webber; Grapes by Mr. T. Brown; and Apples and Pears by Mr. J. Brown. The show reflected great credit to the energetic Hon. Sec., Mr. C. H. Cave, Dr. J. Groves, Chairman, and the Committee.

The Ryde Chrysanthemum Show was held on the 1st and 2nd inst., and

was opened in the presence of a large company by the Mayor (Ald. E. (Marwin), who is an enthusiastic horticulturist. The show was well attended, and the arrangements left nothing to be desired.—S. H.

DROUGHT AND VEGETABLES.

IN his own genial manner Mr. W. Pea has, on page 334, managed to arrive at some interesting conclusions concerning the past wonderful season. From his own point of view and taking into consideration the nature of the soil with which he has to deal, one may not altogether disagree with the views he has chosen to expound. When, however, vegetables in town attain to famine prices, and gardens on light gravel soils are literally burnt up, the most cheerful optimist may fail to see the advantages accruing from such a spell of Soudanese weather. Even the high-class flavour so ably descanted upon becomes less desirable when the scantiness of supply is contemplated.

"Gardening without water" may be a distinct art, but on the soil with which it is necessary for me to daily come in contact would mean failure, in a season such as the past, absolute and irremediable. The top 7 or 8 inches where not watered has been sheer dust, below that we have gravel, hungry, harsh, and dry, yet without boasting, I may say it grows good vegetables. I have cut Marrows this week, the last of the season, and while my neighbours were buying our supply was plentiful. Why? because the roots of the Marrows were under a cool 3-inch mulch, and they received a copious watering every other day; without the latter they drooped, refusing to grow. Other classes of produce were in much the same case—periodical floodings were necessary or growth ceased.

Whatever the future may have in store for me in the shape of heavy land or otherwise, so long as Surrey gravel claims my attention, so long shall I appreciate the reserves of Nature combined with a "beneficent" water company, a good heap of litter and a bounteous supply of farmyard manure, and shall try to make the best of them.—J. SHALFORD.

NOTES ON ALPINE FLOWERS.

(Continued from page 251.)

CARDAMINE TRIFOLIA.

OFT quoted has been Parkinson's reference to this Bitter Cress or Lady's Smock in his "Paradisus," where he says:—"It was sent me by my especial good friend John Tradescante, who brought it, among other dainty plants, from beyond the seas, and imparted thereof a root to me." Although an old plant in gardens, and not a particularly showy one, it is yet generally appreciated by alpine lovers, and included in many good collections. It is of easy growth in a fairly moist soil, but has sometimes been lost from want of moisture in dry gardens. Its flowering in the shade is an advantage, and a decided recommendation to many. It flowers in March or April in Britain. The flowers are only about 6 inches above the soil, and are white, undulated on the edges. They are arranged in terminal racemes. The leaves are Trefoil-like in their form, so that the name given by Linnaeus is quite applicable. They are of a pretty dark green, and contrast well with the white flowers. *C. trifolia* is a native of many parts of Europe, although it is Switzerland whence we first received it in 1629.

GYPSOPHILA CERASTIOIDES.

Those who are familiar with the tall-growing *Gypsophila paniculata*, whose elegant flowers are so much appreciated, must not expect to find in *G. cerastioides* a miniature form of that charming species. To the uninitiated it would appear that there was no relationship between the *Cerastium*-like *Gypsophila* and its favoured congener. There is even no recognisable likeness to the dwarf trailing *G. prostrata*, another good rock garden flower. *G. cerastioides* is a very dwarf species, forming tufts of small leaves and having a number of miniature white flowers with violet coloured streaks. It comes from the north of India, and is fairly hardy in our British gardens. It is, however, very subject to injury from slugs, which often damage both leaves and flowers. It is readily increased by means of division, or by seeds when the latter can be procured. It likes a lightish soil with full exposure to the sun, but requires to be kept moist during the growing season. Some growers find it desirable to place a piece of glass over it in autumn and early spring.

CAMPANULA GARGANICA HIRSUTA.

Many who experience much difficulty in retaining the typical *Campanula garganica* by reason of the fondness slugs have for that pretty plant would find this variety more useful. This is probably due to the small hairs which clothe the leaves and stems of the plant, and which, one supposes, may be disliked by the slugs. This covering of hair-like bristles also adds to the appearance of the plants. *C. garganica hirsuta* forms a bushy plant of rather trailing habit, and hanging over a stone is very pleasing with its pale blue and white flowers. It is a general favourite with us, and is of easy culture in a light peaty soil. It likes a fair, but not excessive, amount of moisture, and is grown in almost full sun. *C. garganica* is a variable species, and is a native of Italy, whence it was introduced in 1832. The name is derived from the former name of Mount St. Angelo—i.e., Garganus. I have never raised this variety from seed, so cannot tell whether it will come true from seed or not. It may be increased by cuttings or division. It may often be met with in catalogues under the name of *C. hirsuta* alone, but that here adopted has the authority of Kew to support it.—ALPINUS.

(To be continued.)



EVENTS OF THE WEEK.—During the coming week scores of Chrysanthemum Shows will be held, and thousands of people will be gladdened by the sight of grand displays of the autumn queen. On page 366 a few of the principal fixtures are noted.

— **WEATHER IN LONDON.**—After sending our pages to press on the 2nd inst. there was a downpour of rain that continued throughout the afternoon and evening, and on Thursday morning. From Friday to Monday it was fine, with bright and dull intervals, and cold winds at night and in the mornings. Tuesday and Wednesday morning were dull.

— **ROYAL HORTICULTURAL SOCIETY.**—Dates of meetings in 1899: January 10th and 31st, February 14th and 28th, March 14th and 28th, April 18th, May 2nd and 16th; Temple Show, May 31st and June 1st and 2nd; June 13th and 27th, July 11th and 25th, August 15th and 29th, September 12th and 26th; Crystal Palace Fruit Show, September 28th, 29th, and 30th; October 10th and 24th, November 7th and 21st, December 5th and 19th; January 9th and 23rd, 1900.

— **ROYAL METEOROLOGICAL SOCIETY.**—At the ordinary meeting of the Society, to be held at the Institution of Civil Engineers, Great George Street, Westminster, on Wednesday, the 16th inst., at 7.30 P.M., the following papers will be read:—"Report on Experiments upon the Exposure of Anemometers at Different Elevations," by the Wind Force Committee; "Comparisons of Estimated Wind Force with that given by Anemometers," by Captain D. Wilson-Barker, F.R.S.E., F.R.Met.Soc.; "The Tornado at Camberwell, October 29th, 1898," by William Marriott, F.R.Met.Soc.

— **WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.**—The usual meeting of this Society was held on Thursday evening in the Mechanics' Institute, Mr. B. Cromwell presiding. The paper of the evening was on the "Art of Dinner Table Decoration," the lecturer being Mr. B. Asbton, gardener to the Earl of Lathom, K.G., who considered it one of the most important features of a first-class gardener, and strong advice was given to under gardeners to make themselves proficient in this department. A capital discussion, opened by the Chairman, was continued by Messrs. T. Carling, J. Ellis, J. Hogan, R. Todd, R. G. Waterman, and others. A vote of thanks to lecturer and chairman closed the meeting.—R. P. R.

— **THE LATE MR. H. F. COWAN.**—It may interest readers to know that the son of Mr. T. W. Cowan, alluded to in the current issue of the *Journal of Horticulture* (Mr. H. F. Cowan), and who was lost in the wreck of the ill-fated "Mohegan," was a few years ago a very promising student in the Royal Horticultural Society's Gardens at Chiswick. After having served two years he went to Edinburgh Botanic Gardens, where he was located in the herbarium under Professor Balfour for some two or three years. He had, however, given up gardening and was being trained by the Church Missionary Society, expecting eventually to go to China in the capacity of a missionary, but his health had become impaired through over-study and he was taking a trip to California to recruit and visit his brother who is already there, when he met his death, the ship running on the Manacles Rock, and so ended a life which had given great promise.—T. W. T.

— **BIRMINGHAM GARDENERS' ASSOCIATION.**—At the usual fortnightly meeting held on October 27th Mr. C. Colebroke, Birmingham, contributed a paper entitled, "The Grouping of Plants for Effect at Exhibitions." Mr. Walter Jones occupied the chair, and in the absence of the essayist the paper was read by Mr. W. Gardiner, Librarian to the Society. Exhibitors were strongly advised to avoid the temptation of overcrowding, and to imitate Nature by adopting as artistic and graceful a style as possible. Reference was also made to the splendid groups of Chrysanthemums at the great Jubilee Exhibition held in Bingley Hall last year. In the ensuing instructive discussion, in which several of the members took part, there was a consensus of opinion that in almost every respect the half-circular form of group is preferable to the circular, and also affords a readier means of comparing their relative merits. At the next meeting a discussion, to be opened by Mr. W. Spinks, on "The Exhibits at the Late Chrysanthemum Show" will take place.

— **GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—We are requested to state that the Committee of the above Institution have been obliged to remove their offices from 50, Parliament Street, to 175, Victoria Street, S.W., where all communications should now be addressed.

— **KEELE HALL GARDENS.**—We understand that Mr. J. Wallis, who has long and creditably occupied the position of head gardener at Keele Hall, has arranged to relinquish his charge. Mr. Wallis is known as a successful exhibitor of fruit, and his services as a judge at horticultural shows were in demand in Staffordshire and surrounding counties.

— **THE HESSLE GARDENERS' SOCIETY.**—At a well-attended meeting of the above Society, held on November 1st, Mr. G. Picker of Hesselwood read a paper on the cultivation of bush fruits. The essayist dealt with the subject in an exhaustive manner, dealing with the soil, varieties, diseases, and other points. There was a capital discussion, in which several members took part.—J. T. B.

— **GISHURSTINE.**—The inventor of this valuable preserver of boots and preventer of colds through damp feet sends us, through Price's Patent Candle Company, the annual sample package as a reminder of coming slush with its attendant inconveniences, and he evidently considers it would be prudent on the part of gardeners, farmers, gamekeepers, and pedestrians generally to lay in a winter stock of the dubbing, which remains unsurpassed for the purpose for which it was compounded by the distinguished amateur gardener and originator also of the Gishurst compound that has proved so serviceable in gardens for over thirty years.

— **COMMERCIAL ENTERPRISE.**—The name of "Sell" is, so to say, a household word in the commercial, and especially the advertising world. Mr. Henry Sell has embarked on a great enterprise, the establishment of a large weekly penny newspaper, to be devoted to the furtherance of British trade at home and abroad. The first number is before us, and we shall be surprised if the circulation of *Commercial Intelligence* does not increase by leaps and bounds among the mercantile community. Its title exactly denotes its character. The columns are not filled with dry tabulations, but with important information in readable form. Its policy is broadly based, as may be seen from the following citation:—"It is not our intention to indulge in lachrymose jeremiads about the decline and fall of British industry, nor in jealous complaints about the enterprise and energy of other nations. British commercial supremacy has been built up, and must be maintained, by more robust and manly methods. We recognise the awakening of the nations to the rivalries of commerce as inevitable; we accept their challenge, and welcome the struggle with foemen worthy of our steel. It is our object to incite, to encourage, to assist British merchants and manufactures, so that by world-wide energy and enterprise they will maintain their proud pre-eminence in the face of all competition." That is entirely the right spirit to cultivate. It is not those who sit still and grumble over competition who make headway in these days, but those who meet it bravely. There is always room at the top, and hence this new and promising medium with its patriotic motto, "Our country's welfare is our first concern."

— **LONICERA HILDEBRANDIANA.**—This large-flowered Honeysuckle was discovered in Upper Burma in 1878 by General Sir Henry Collett, K.C.B., F.L.S., and described in the *Journal of the Linnean Society* (vol. xxviii., page 664) as "a conspicuous shrub, with large, dark, glossy leaves and fine crimson flowers 7 inches long, and is by far the largest of any known species of Honeysuckle." Seeds of it were kindly forwarded to Kew in 1894 by Mr. A. H. Hildebrand, C.I.E., Superintendent and Political Officer of the Southern Shan States, after whom the plant is named, and plants raised from them were liberally distributed. It proved too tender for cultivation in the open air at Kew; on the other hand, it has grown vigorously under greenhouse treatment, but has not yet flowered. Mr. F. W. Moore, the able Keeper of the Royal Botanic Gardens, Glasnevin, has, however, been more successful, flowers having been produced there in August last on a plant grown in a sunny airy position in a greenhouse. The example forwarded to Kew by Mr. Moore bore two-flowered axillary racemes, with flowers 6 inches long, and of a bright golden colour—not crimson, as stated in the note quoted above. Writing from Burma in April last year, Mr. Hildebrand said: "I am sorry that you are unable to flower the large Honeysuckle and Rose (*Rosa gigantea*). The former is a sight to behold just now in my garden, and strikes the densest in horticultural matters with astonishment. It is a mass of flowers, white when they open, and of a lovely gold when far spent. It flowers on last year's wood. Water at the roots is what both Rose and Honeysuckle require."—"Kew Bulletin."

— SPECULATIONS.—“H. H. R.” does me too much honour. The “analysis of judges” at Shrewsbury was most ably done, but not by me. I plead guilty to a little banter at “A. D.’s” expense, but, bless you! the rare old critic likes it—so long as he can give one back! I am afraid “H. H. R.” misses the point. He is perhaps one of those people who can see a joke only after a surgical operation, but if he will give me an idea how I, or anyone, can add anything useful to a complaint about something we cannot control, I will do my best to meet his wishes.—W. PEA.

— MARCHAND A GARDENER.—This is what the “Daily News” correspondent says of the French explorer, whose name is not unfamiliar in this country:—“Marchand’s stature would be about 5 feet 3½ inches. If he were not a naval officer he might have been an eminent gardener. Wherever he planted the flag he planted a garden and sowed edible vegetables. His Radishes, it appears, were a great success. So were his Cucumbers, Pumpkins, Lettuces, Spinach, and Sweet Potatoes. Vegetables almost sprang up in the course of a night on the Bahr-el-Ghazal, and at Fashoda, as is known, he was able to send a well-filled hamper from his garden to the Sirdar.” The P. D. says this is better than (in Cockney slang) the Sirdar “giving the Major ‘beans.’”

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL.—NOVEMBER 8TH.

THE exhibition at the Drill Hall was, as might have been expected, comparatively small; but there were several most interesting exhibits of Orchids, flowers, and fruits.

FRUIT COMMITTEE.—Present: Phillip Crowley, Esq. (in the chair); with Rev. W. Wilks, and Messrs. G. Bunyard, J. Cheal, J. H. Veitch, W. Poupert, A. H. Pearson, J. Smith, F. Q. Lane, G. Woodward, W. Bates, C. Herrin, A. Dean, and J. Wright.

Messrs. Jones & Sons, Shrewsbury, sent a display of Beurré Clairgeau Pears from a tree which was full of blossom in August. The fruit exhibited were of the second crop resulting, and very fine (vote of thanks).

Mr. James Day, Galloway House Gardens, Garlieston, sent a dish of James Grieve Apple, yellow flushed red, a tender and excellent dessert Apple. It had an award of merit in 1896 (vote of thanks).

Messrs. Jarde & Co. sent a brilliantly coloured seedling Apple, a medium sized, five knobbed, flattish fruit, shining crimson, but the quality was not approved by the Committee. Mr. Glenister, gardener to M. S. Morrison, Esq., Crowhurst, Finchley, sent beautifully coloured fruits of Gascoyne’s Scarlet Seedling Apple (vote of thanks).

Mr. W. Bygrave, The Gardens, Rous Leuch Court, Evesham, sent a dish of Peas Charles I., pods small, peas also, and hard. Their lateness was considered largely the result of the prolonged mild weather, as both Omega and Ne Plus Ultra have been gathered occasionally in November.

Mr. Vert sent from Audley End a splendid dish of Coe’s Golden Drop Plum. He also sent beautiful fruits of Vert’s Favourite Cucumber, a dark green form of Telegraph and of excellent quality. A vote of thanks was accorded, and a cultural commendation.

From the Royal Gardens, Kew, came fruits of the “Tree Tomato,” *Cyphomandra betacea*, gathered from a tree two years old, which produced 200 fruits in a warm greenhouse (cultural commendation).

Messrs. Sutton & Sons exhibited a box of splendid fruits of Everyday Cucumber, of which they have obtained the stock from its raiser, Mr. Owen Thomas of the Royal Gardens. It is a much-honoured variety, having first received an award of merit and subsequently a first-class certificate. Fruits of this Cucumber can be cut every day in every garden in which conveniences are provided for producing them, and the variety will now find its way into many.

Mr. F. Cornish, gardener to the Dowager Lady Bowman, Joldwynds, Dorking, sent fruiting sprays of *Akebia quinata*. Their peculiar form and pale lavender colour were very attractive.

Messrs. G. Bunyard & Co. sent a remarkable collection, consisting of 100 dishes of dessert Apples, in which the characteristics of the varieties were admirably displayed. Since all the Apples were as good as they could be produced, it would be invidious to enumerate some and ignore others. An exception, however, may be made in the case of the comparatively new Allington Pippin, which, in all probability, has a future before it that will equal in popularity that of Cox’s Orange Pippin. The best evidence of the value of the Maidstone collection was the unanimous award of a gold medal.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with Messrs. H. B. May, J. H. Fitt, Geo. Stevens, J. Jennings, J. F. MacLeod, W. Howe, C. E. Pearson, J. D. Pawle, J. T. Bennett Poë, C. E. Shea, E. T. Cook, H. Turner, C. T. Druery, C. Jeffries, E. Mawley, and the Rev. G. Engleheart.

Mr. H. B. May, Upper Edmonton, made a handsome exhibit of *Begonia Gloire de Lorraine* and *Polypodiums*, comprising fifty species and varieties. Messrs. T. S. Ware, Ltd., Hale Farm Nurseries, Tottenham, sent a stand of *Cactus Dahlias* in capital condition, with a few *Chrysanthemums* and *Nerines*. Winter-flowering *Begonias* Myra, Mrs. Heal, and a new semi-double named *Winter Perfection*, and *Dracæna The Sirdar*, were shown by Messrs. J. Veitch & Sons, Ltd., Chelsea. The same firm sent also *Michaelmas Daisies*, *Drummondii Sappho*, *grandi-*

florus, and *Tradescanti*. Messrs. Ray & Co., Teynham, staged *Chrysanthemum Archie Ray*. Mr. N. Molyneux, gardener to J. C. Garnier, Esq., Rookesbury Park, Fareham, sent *Chrysanthemums* Jane Molyneux, Nellie, S. Threlfall, and John Miles. Messrs. G. Bunyard & Co., Maidstone, staged double *Zonal Pelargonium White Abbey*.

Some *Chrysanthemums* of excellent quality were exhibited by Mr. W. J. Godfrey, Exmouth. The flowers were fresh and of good colour, the varieties including *Autumn Glory*, *Le Grand Dragon*, *Marie Calvat*, *Celeste Falconnet*, *President Bevan*, *Lord Boston*, Mrs. J. G. Glessner, Mr. T. Carrington, *Dome d’Or*, and *King of the Yellows*. Mr. W. Wells, Earlswood, staged the most extensive exhibit of *Chrysanthemums*, and there were several of considerable merit. Amongst others were observed *The Convention*, *President Nonin*, *Mary Molyneux*, G. J. Warren, *President Bevan*, Mr. T. Carrington, Miss Nellie Pockett, John Pockett, Mrs. White Popham, *Simplicity*, *Leocadie Gentils*, *Australie*, and Lord Ludlow, with numerous floriferous decorative varieties.

Messrs. F. Sander & Co., St. Albans, contributed *Acalypha Sanderiana*, *Dracæna Godseffiana*, with a few Orchids. H. J. Elwes, Esq., Colebourne, Gos., sent a very handsome collection of *Nerines*, the colours ranging from delicate blush to brilliant scarlet and crimson. Mr. R. Owen, Maidenhead, exhibited *Chrysanthemums* Lady Phillips, Mrs. J. W. Barks, Mrs. W. C. Egan, Owen’s Memorial, *E-lith Owen*, Lord Cromer, and Mrs. W. Mease.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O’Brien, de B. Crawshay, H. M. Pollett, H. Ballantine, H. Little, H. J. Chapman, F. J. Thorne, W. H. Young, T. Statter, and T. W. Bond.

Mr. G. E. Day, gardener to H. F. Simonds, Esq., Beckenham, arranged a small but attractive group of Orchids, including *Cattleya labiata*, *Odontoglossum grande*, *Lælia autumnalis atrovirens*, *Lycaste Skinneri alba*, and a few others. From the Right Hon. J. Chamberlain, Highbury, came *Cattleya fausta delicata*, C. Mrs. Endicott, *Lælio-Cattleya Sallieri magnifica*, L.-C. *Semiramis*, and *Dendrobium Phalænopsis Schröderianum Chamberlainianum*. Small exhibits of Orchids were contributed by Messrs. W. H. Young, H. J. Chapman, W. Whiffen, R. C. Williams, J. T. Bennett Poë, and Sir Wm. Marriott, Bart. Mr. J. Douglas, Great Bookham, showed splendid flowers of *Cattleya labiata* in variety. Very attractive indeed were the Orchids from Messrs. J. Veitch and Sons, Ltd. They were charmingly arranged, and made one of the most effective standards in the hall. *Cattleyas labiata*, *Bowringiana*, *Wendlandiana*, and *Mantini*; *Lælio-Cattleyas* *Decia*, *Nysa*, *Statteriana*, *Lady Rothschild*, and *Semiramis*; *Cypripediums insignis Sanderæ*, *Euryades*, *Niobe*, *Milo*, and others; with *Miltonia Bleuiana*, *Dendrobium atro-violaceum*, *Odontoglossum grande*, *Catasetum fimbriatum*, and *Brassia Lawrenceana longissima* were amongst the most prominent. It was generally considered that this was one of the finest collections of Orchids that has ever been staged at this period of the year (gold medal).

MEDALS. Floral Committee.—Silver-gilt Flora. Mr. H. B. May; silver Floras, Messrs. T. S. Ware, Ltd., and W. Wells; and silver-gilt Banksian to Mr. H. J. Elwes. Orchid Committee.—Gold medal to Messrs. J. Veitch & Sons; silver Banksian medals to Messrs. J. Chamberlain, H. F. Simonds, and J. Bradshaw; bronze medal to Mr. J. Douglas.

CERTIFICATES AND AWARDS OF MERIT.

Begonia Winter Perfection (J. Veitch & Sons).—A semi-double rose-coloured winter-flowering *Begonia* (award of merit).

Cattleya Bowringiana var. (W. H. Young).—This is a charming variety. The sepals and petals are lilac with a rose suffusion, the lip being reddish lilac on the front lobe, velvety crimson at the centre, with a pale primrose spot (award of merit).

Chrysanthemum Jane Molyneux (N. Molyneux).—A fine Japanese, with creamy white reflexing florets (award of merit).

Chrysanthemum Lord Cromer (R. Owen).—A superb reflexed Japanese. The colour is rich glowing crimson, with a pale yellow reverse (award of merit).

Chrysanthemum Mrs. W. Mease (R. Owen).—A lovely form of *Madame Carnot*, with very pale primrose flower (award of merit).

Chrysanthemum President Nonin (W. J. Godfrey and W. Wells).—An incurving Japanese with pale buff hued blooms (award of merit).

Chrysanthemum Nellie Pockett (W. Wells).—A delicate creamy white, with narrow reflexing and recurving florets (award of merit).

Chrysanthemum John Pockett (W. Wells).—A magnificent broad floretted incurving Jap of Australian origin. The inner colour is rich crimson, and the reverse yellowish buff (award of merit).

Cypripedium Wottoni (H. J. Chapman).—A hybrid from *C. bellatulum* and *C. callosum*. The flower is massive. The pouch is deep claret, and the petals paler claret with deep spots. The dorsal sepal is broad, pale claret in colour, with deeper veins and a white margin (award of merit).

Dracæna The Sirdar (J. Veitch & Sons).—A striking form, with deep green and red margined leaves of drooping habit (award of merit).

Nerine Miss Jekyll (H. J. Elwes).—A salmon rose-tinted variety of much beauty (award of merit).

Nerine Lady C. Mitford (H. J. Elwes).—This is a soft rose-hued variety that is very charming (award of merit).

Nerine Mrs. Douglas (H. J. Elwes).—A silvery rose form with a scarlet midrib (award of merit).

Polypodium grande nigrescens (J. Veitch & Sons). This is a hybrid from a cross from *P. nigrescens* and *P. vulgare grandiceps*, but the latter is not very apparent. It is very handsome, being splendidly crested, while the spore cases are very conspicuous (first-class certificate).



CATTLEYA MARONI.

THE persistent increase in the number of hybrid Orchids shows clearly that there are many growers who devote the closest attention to the work. These are found not only in England, but also in other countries, and the latest example comes from Mons. Chas. Maron, Brunoz, France. It is a hybrid *Cattleya* resulting from a cross between *C. velutina* and *C. aurca*, of both of which parents it freely partakes, and is quite distinct from any other. The lip is intermediate between each parent, but favours *velutina* in form, as may be seen from the woodcut (fig. 62). The colour is rich reddish-crimson with a slight suffusion of purple, the throat being yellow with crimson veins. The margin of the front lobe is crimped, and differs a little in shade from the central portion. The petals, which are slightly wavy, and the sepals, are of great substance, and are of a peculiarly rich chrome yellow colour. The spike was very strong, and carried upwards of half a dozen flowers.

COLOURED DRAWINGS OF BURMESE ORCHIDS.

THE widow of the late Rev. C. S. Pollock Parish has presented Kew with two folio volumes of coloured drawings of Orchids, executed by him. Long before Orchid growing had become so popular as it is now, that is to say in 1852, Mr. Parish went to Moulmein, in Burma, where he remained until 1878. He was early attracted by the variety and beauty of the Orchids, and began studying, drawing, and cultivating them. He also introduced a large number of living plants into this country. Almost from the first he was in correspondence with Kew, and a contributor to the herbarium and garden. When he came home in 1871 he presented a beautiful collection of water colour drawings of Orchids. These are accompanied by admirable analyses of the flowers. On his return to Burma he continued to send specimens and sketches or tracings of his original drawings.

Now, in accordance with his wishes, Kew possesses the whole of his original, elegant, and accurate drawings; a most valuable addition to the existing collection. In conjunction with the late Dr. H. G. Reichenbach, he published descriptions of a large number of new Orchids in the Transactions of the Linnean Society (vol. xxx., 1873), illustrated by a number of plates from his own pencil. In 1870 Sir Joseph Hooker dedicated the ninety-sixth volume of the "Botanical Magazine" to him, as a tribute to the value of his many contributions to Kew, and to the plates of that publication. He died on October 18th, 1897, at the age of seventy-five years.—("Kew Bulletin.")

ODDS AND ENDS.

BEGONIA President Carnot is one of those useful plants which ought to be in the possession of everyone who has a warm greenhouse at his disposal. It is best grown up the roof as a climber, as then the beautiful pendant racemes of flowers are seen to the best advantage. It was thus I first saw it growing in the Begonia house at the Botanic Gardens at Edinburgh, and I was so captivated by it that I have had it ever since, and it has always been a source of pleasure and admiration to many who have seen it. One thing about it has always puzzled me, and that is its peculiar habit of persistently dropping all the male flowers. I have often wondered if this is owing to any fault in culture, or is it characteristic of the plant. I shall be pleased to have information on this point from those who have grown it.

Clerodendron fallax is another plant admirably adapted for growing to provide a bright display during the latter end of autumn and beginning of winter. Seeds sown in spring make sturdy plants for flowering at this season. They should not be overpotted, 5-inch pots being a very suitable size in which to flower them. Cuttings may also be taken off in spring with a heel, and rooted in strong bottom heat, but the better plan is to reserve a plant or two for seed production, as seedlings are more satisfactory, at least this has been my experience. The flowers, which are bright scarlet, are produced in many-flowered erect panicles, and are exceedingly showy.

Just now we have in one of our houses plants of *Gesnera cinnabarina* arranged amongst a number of Maidenhair Ferns, which look charming. The bronzy red foliage and bright blossoms, borne on erect racemes, are shown off to advantage by the soft green background of the Ferns. Where winter flowers are a desiderata, a few tubers of this old fashioned plant might well be included even in the smallest collection.

We in Scotland like to keep abreast of the times, consequently we are up to date in the latest in "Mums"—rust. Being desirous of having a few new varieties, I, in January, sent off to a well known specialist in the south for a few. With characteristic generosity this good man sent two cuttings instead of one in a number of instances; I, therefore, following

the good example set, handed over several to my neighbour, so that the novelties might get ample justice. Later in the season we discovered that our southern friend had been more generous than we anticipated, as we had received gratis a few spores of the *Chrysanthemum* rust. However, I hope it will not turn out such a dire enemy as some seem to think. Some varieties apparently are more liable to be attacked than others. *Duchess of Fife* (incurved) with me is the worst affected, and it is really very bad. I have isolated a plant, and will leave the fungus to its own sweet will, and see what the results will be. Other plants affected are being sponged with a mildew destroyer, with evidently satisfactory results.

Chrysanthemums, as a rule, are looking remarkably well in the north this year; the tropical season which we have experienced no doubt helped to ripen the wood well, consequently we anticipate a good display at some of our leading exhibitions.—ALBYN.

CHRYSANTHEMUM SHOWS.

WESTMINSTER (N.C.S.).—NOVEMBER 8TH, 9TH, AND 10TH.

THE National Chrysanthemum Society cannot fail to congratulate themselves on their exhibition held at the Royal Aquarium. The Show throughout was excellent, and the competition in the prominent classes very keen indeed. A very notable fact must be recorded—i.e., the executive had arranged to have all the classes roped off while the judging was taking place, a fact that seemed to give general satisfaction.

There were four competitors for the National challenge trophy. The competition was very keen, and gave the Judges some trouble. The Portsmouth and District, as represented by Mr. J. Agate, Nurseries, Havant, ultimately secured the coveted award with a very strong exhibit. The blooms were:—Japanese, back row, reading from left to right: Jane Molyneux, Mrs. Mease, Milano, C. Davis, V. Morel, Oceana, Madame Carnot, and Australia. Second row: Edith Tabor, Lady Hanham, Jos. Brooks, Mrs. W. Popham, Ella Curtis, President Rivoire, Jos. Chamberlain, and a seedling. Front row: Col. W. B. Smith, Australian Gold, Mary Molyneux, Princess C. of Denmark, Thérèse Rey, Dorothy Seward, Lady Byron, and International. The incurved varieties were—Mrs. N. Molyneux, Lady Isobel, Perle Dauphinoise, Violet Foster, Globe d'Or, *Duchess of Fife*, Chas. H. Curtis, and Nellie Threlfall. Second row: Baron Hirsch, Miss M. A. Haggas, Ma Perfection, Princess of Wales, Madame Ferlat, Mrs. S. Coleman, J. Agate, and Dorothy Foster. Front row: Mr. J. Kearn, Lord Rosebery, John Miles, Topaze Orientale, Violet Tomlin, Mrs. R. C. Kingston, Lucy Kendall, and Madame Darier.

The Bromley and District Society was a close second with fine blooms of Mrs. H. Weeks, G. J. Warren, Mad. Carnot, Lady Ridgway, and Eva Knowles. The best incurved varieties were Geo. Haigh, Ernest Cannell, Chas. H. Curtis, and Globe d'Or. The Barnet and District Society was third.

There were six entries for thirty-six distinct incurved varieties for the Holmes' Memorial cup. Mr. W. Higgs, gardener to J. B. Hankey, Esq., Fetcham Park, Fetcham, secured premier honours with a very even stand. The varieties were *Duchess of Fife*, M. Desblanc, Golden Empress, Ma Perfection, Dorothy Foster, Globe d'Or, Mad. Ferlat, John Lambert, Mrs. R. C. Kingston, Major Bonnaffon, Robert Petfield, and Lady Isobel; Alfred Salter, T. W. Wilkinson, C. B. Whitnall, Mrs. R. King, Queen of England, Baron Hirsch, Lord Alcester, Mrs. J. Eadie, J. Agate, Geo. Haigh, Ernest Cannell, and Empress of India; D. B. Crane, Austin Cannell, Mrs. Coleman, Sir T. Lawrence, Bonnie Dundee, Miss M. A. Haggas, Violet Foster, Jeanne d'Arc, Violet Tomlin, M. P. Martignac, Mad. Darier, and Princess of Wales. Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, was placed second with good blooms of C. H. Curtis, Mrs. Coleman, Mad. Darier, Lady Isobel, and Miss Violet Foster, and Mr. W. Mease, gardener to A. Tate, Esq., Leatherhead, was third.

The Turner Memorial challenge cup for thirty-six Japanese in twelve varieties, three blooms each, was won by Mr. N. Davis, Framfield, with a strong stand, which now makes him the owner of the cup. The varieties were G. J. Warren, General Roberts, Madame Gustave Henri, Dorothy Seward, Oceana, S. C. Probin, E. Molyneux, Phœbus, Mutual Friend, President Nonin, Jos. Chamberlain, and Madame Carnot. Mr. Godfrey, Exmouth, was second.

There were sixteen competitors faced the Judges in the class for twenty-four Japanese, distinct, the prizes presented by the Royal Aquarium directors. It is needless to say the Judges had a very stiff task. Mr. R. Kenyon, gardener to A. F. Hills, Esq., Monkham, Woodford, was placed first with a grand stand. The varieties were Madame G. Bruant, Phœbus, Lady Hanham, Madame L. Brossillon, Mons. Hoste, Master H. Tucker, Soleil d'Octobre, Mrs. Weeks, Madame Gustave Henri, John Neville, Edith Tabor, Mrs. C. H. Payne, Chas. Davis, Mrs. Mease, V. Morel, Mons. Chenon de Léché, N.C.S. Jubilee, Mrs. J. Lewis, Sec. Fierens, Madame Desblanc, Mrs. Barker, Mrs. Carrington, Dorothy Seward, and Mrs. G. Carpenter. Mr. W. Mease was second with a very good stand. The best blooms were Mrs. J. Lewis, Mrs. White Popham, Madame Gustave Henri, J. Bidencope, Mutual Friend, Nellie Pockett, and Mrs. W. Mease. Mr. H. Perkins, gardener to the Hon. W. F. D. Smith, M.P., Henley-on-Thames, third; Mr. Jas. Brooks, gardener to W. J. Newman, Esq., Totteridge Park, fourth.

There were five competitors for the special class of twenty-four blooms incurved, distinct, the prizes from the same source. Mr. W. Higgs was placed first with a very good stand. His varieties were *Duchess of Fife*,

Major Bonnafor, Robert Petfield, Ma Perfection, Globe d'Or, John Agate, Mons. Desblanc, and Lady Isobel; Alfred Salter, Queen of England, Madame Ferlat, Mrs. J. Eadie, Golden Empress, J. Agate, L. Payne, and Ernest Cannell; Lord Alcester, Mrs. R. C. Kingston, Jeanne d'Arc, Violet Tomlin, Empress of India, Geo. Haigh, Princess of Wales, and Baron Hirsch. Mr. W. Wilson, gardener to R. C. Christie, Esq., Bagshot, was second with good flowers of Chas. H. Curtis, Baron Hirsch, Ma Perfection, Bonnie Dundee, D. B. Crane, and Geo. Haigh. Mr. T. Robinson, gardener to W. Lawrence, Esq., Hollingbourne, was third.

There were nine competitors for twelve blooms incurred, distinct. Mr. G. J. Hunt, gardener to P. Ralli, Esq., Epsom, was first with a grand stand. The blooms were Duchess of Fife, Mons. Desblanc, Ma Perfection, Globe d'Or, Chas. H. Curtis, Empress of India, Miss Dorothy Foster, Golden Empress, John Lambert, Mrs. S. Coleman, Miss M. A. Haggas, and Lord Alcester. Mr. W. Robinson was placed second, and Mr. J. W. McHattie, gardener to the Duke of Wellington, third.

In the class for forty-eight Japanese, distinct, Mr. W. H. Lees, gardener to F. A. Bevan, Esq., New Barnet, secured the premier position with a heavy stand of fresh, clearly coloured flowers. The varieties were Surpasse Amiral, Australie, Lady Ridgway, Mme. Carnot, Viviani Morel, Louise, Oceana, Mrs. W. H. Lees, Mrs. C. H. Payne, Elsie Teichmann, Phœbus, Madame M. Ricoud, Mons. Hoste, Sec. Fierens, Reine d'Angleterre, Mrs. H. Weeks, Mons. Chenon de Léché, Souvenir de Petite Amie, J. Bidencope, Mrs. Palmer, Souvenir de Madame E. Rosette, Simplicity, N.C.S. Jubilee, Pride of Madford, Mutual Friend, Chas. Shrimpton, C.B. Heywood, Madame Rosseau, Mrs. Lewis, Ed. Molyneux, Madame Ph. Rivoire, Ella Curtis, Nellie Pockett, Robt. Powell, Edith Tabor, Mrs. F. A. Bevan, Madeline Davis, Miss D. Shea, Lady Byron, Col. Chase, Chas. Davis, Mrs. Mease, Joseph Chamberlain, President Nonin, Chatsworth, Col. Smith, Seedling, and Madame G. Bruant. Mr. F. Vallis, Bromham Fruit Farm, Chippenham, was second with a most creditable stand, several blooms being of superb quality. A few of the best were Mutual Friend, Mrs. Mease, T. Carington, Madame Gustave Henri, Australian Gold, Mme. Carnot, Lady Hanham, and Modesto. Mr. W. Mease, gardener to A. Tate, Esq., Leatherhead, was third with a much lighter stand of flowers. Mr. J. W. McHattie, gardener to the Duke of Wellington, Strathfieldsaye, was placed fourth out of the seven exhibitors.

There were three capital groups in competition, but Mr. J. Spink, Summit Road Nursery, Walthamstow, secured the first prize with perhaps the best group ever staged at this Show. The blooms were grand, and the arrangement left nothing to be desired. Mr. W. Howe, gardener to Sir H. Tate, Bart., Streatham, was placed second with a very fine display; and Mr. E. Dove, gardener to W. E. Fry, Esq., Bickley Hall, third.

Mr. F. Gilbert, gardener to W. A. Sewell, Esq., Highgate, was awarded second for six trained plants with a fair exhibit. There was a better competition for four trained specimens. Mr. F. E. Wraight, gardener to J. Troup, Esq., Upper Clapton, was first with four good specimens; Mr. F. Gilks, gardener to A. Morris, Esq., Streatham, must have been a very close second; and Mr. W. Davey, gardener to C. C. Paine, Esq., Haverstock Hill, third. Mr. F. Gilks was first for six trained Pompons with a very creditable display. For six standard trained varieties Mr. F. Gilks was again first with an even display, and Mr. F. E. Wraight second.

In the class for six blooms incurred, one variety, Mr. G. J. Hart first with a superb six of Duchess of Fife. Mr. W. L. Farmer, gardener to H. P. Leschallas, Esq., Windlesham, second with Chas. H. Curtis, in good form. Mr. T. Robinson was third with Miss Dorothy Foster. For six blooms Japanese, white, one variety, Mr. N. Davis was well ahead with a grand exhibit of Madame Carnot. Mr. G. Foster, gardener to H. Spencer, Esq., Teignmouth, was second, with the same variety. Mr. G. Elder, gardener to J. W. Benson, Esq., Walton-on-the-Hall, was third

with the same variety. For six Japanese blooms, one variety, coloured, Mr. J. McHattie was first with grand blooms of Australie; Mr. W. Slogrove, gardener to Mrs. Crawford, Reigate, was second with fine blooms of Lady Hanham. Mr. T. H. Lodge, gardener to Mrs. Meret, Bishop's Stortford, was third with Viviani Morel. There was a good competition for six blooms Japanese, yellow, one variety. Mr. H. Shoemsmith was first with Phœbus; Mr. J. Agate second with Mrs. Mease; and Mr. G. Elder third with Phœbus.

For twelve Japanese, distinct, Mr. W. Meredith, gardener to D. P. Sellar, Esq., Brentwood, with good blooms of Mons. Chenon de Léché, C. B. Haywood, Mons. Panckoucke, and G. Seward. Mr. F. King, gardener to A. F. Perkins, Esq., Holmwood, second, with a good stand. Mr. R. Kenyon a good third. There were eight competitors in the class for two blooms each of Madame Carnot, Mrs. Mease, and G. J. Warren; prizes presented by Mr. H. J. Jones. Mr. W. Mease was first with a splendid exhibit; Mr. W. Higgs being second, and Mr. G. Foster third.

In the amateur class for twelve Japanese, distinct, Mr. W. A. Brown, gardener to H. W. Sellem, Esq., Woking, was first with a very good exhibit. Mr. R. Gladwell, gardener to S. Smith, Esq., South Norwood, was second; and Mr. A. Ocock, gardener to Mrs. Bacon, Sutton, third. For eighteen blooms, Japanese, distinct, Mr. L. Gooch, gardener to J. W. Jones, Esq., South Norwood, was placed first with good blooms of International, Australie, Prefet Robert, and Mutual Friend. Mr. A. Hooney, gardener to G. H. Cox, Esq., East Barnet, was a close second; and Mr. A. W. Seabrook, gardener to W. Willes, Esq., Buckhurst Hill, third. The premier bloom of Japanese in the show was taken by Mr. F. Vallis with a grand bloom of G. J. Warren.

Mr. H. J. Jones, Lewisham, certainly excelled himself with a grand display, occupying about 400 feet. The centre was occupied with gigantic vases of Japanese blooms, tastefully arranged with coloured leaves and foliage plants. These were flanked on either side with groups of plants in pots, with a few foliage plants at their base. The Chrysanthemum blooms were excellent (large gold medal).

Mr. Robert Owen, Maidenhead, staged a fine exhibit of cut blooms, arranged with an assortment of foliage plants. The most prominent new varieties were Mrs. W. H. Greenfell, Mrs. Chas. Herrin, Britannia, Lord Cromer, Miss Rander-son, Sir Herbert Kitchener, and also some notable seedlings (silver-gilt medal). Messrs. H. Cannell & Sons, Swanley, staged a very large exhibit, consisting of a magnificent display of Zonal Pelargoniums, staged in Mr. Cannell's well-known style, Cannas in great variety, and a representative display of

Chrysanthemums (large gold medal). Mr. W. J. Godfrey staged a good collection of cut blooms, embracing all the new varieties. The most notable were Autumn Glory, Reginald Godfrey, Nellie Pockett, Golden Harvest, Ella Curtis, Le Grand Dragon, and a golden sport from Louis Boehmer (silver-gilt medal).

Messrs. J. Laing & Son, Forest Hill, exhibited a collection of Conifers, standard Bays, Crategus Lelandi, and a variety of hardy plants (silver gilt medal). Messrs. John Peed & Sons, Norwood, contributed a group of pot plants, in most of the popular kinds (large silver medal). Messrs. T. S. Ware, Ltd., Tottenham, staged a table of Chrysanthemums, somewhat formally arranged; also a good display of Cactus Dahlias (small silver medal). Mr. J. Russell, Richmond, contributed an interesting group of tree Ivies in about eighteen varieties (silver medal). Mr. B. S.

Williams, Upper Holloway, staged a grand display of Ericas, Bouvardias, Carnations, and Begonia Gloire de Lorraine, with a choice collection of Orchids in flower, the whole arranged with Palms, Dracenas, Crotons, and Ferns (silver-gilt medal). Messrs. W. Cutbush & Son, Highgate, exhibited a good display of Chrysanthemums, Carnations, Calla Elliottiana, Begonia Gloire de Lorraine, Lily of the Valley, and Roman Hyacinths, tastefully arranged with Bamboos, Palms, and a large variety of autumn-flowering plants (silver-gilt medal).

TORQUAY.—NOVEMBER 1ST AND 2ND.

THE fourth annual Chrysanthemum Show of the Torquay District Gardeners' Association was held on Tuesday and Wednesday, November 1st and 2nd. The classes for groups and fruits were well filled, but there was a lack of competition in the cut bloom section, owing probably to exhibitors reserving themselves for Exeter and Plymouth on the following days. Mr. C. R. Prowse, gardener to Dr. W. Ford Edgelow, won the N.C.S. silver medal with a circular group containing excellent blooms and foliage, whilst Mr. J. Aggett, gardener to Mrs. Cumming, took first honours in the smaller semicircular group against four other competitors. Mr. J. Styles, gardener to Rev. G. Lyons, was the chief winner in the cut blooms; Mr. R. W. Hodder, gardener to Mrs. Trevor Barkley, running him

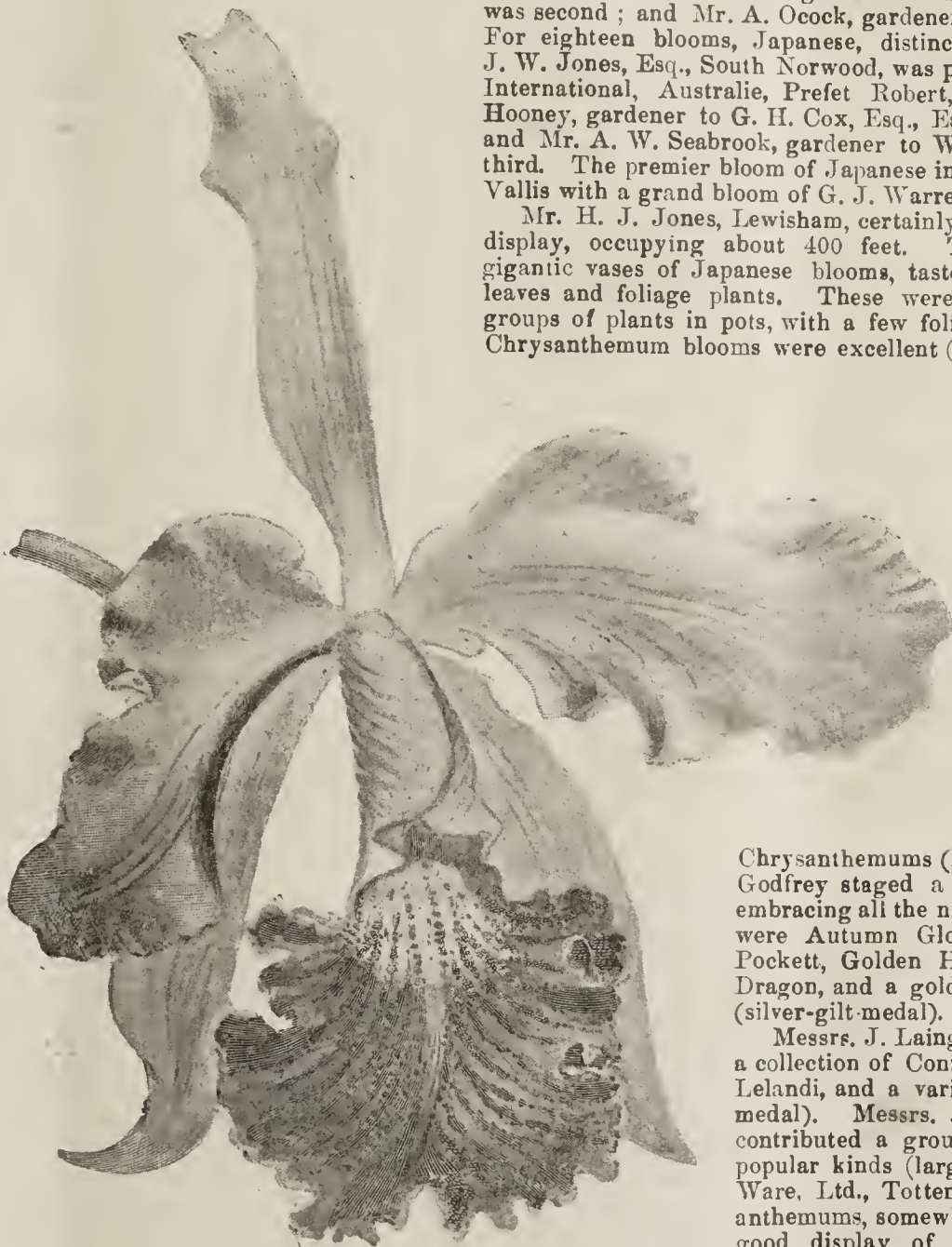


FIG. 62.—CATTLEYA MARONI.

very closely. Mr. W. R. Satterly, gardener to Mrs. Rawson, won the N.C.S. certificate for cut blooms with thirty-six, shown with foliage in vases. Mr. H. R. Jones, gardener to F. P. T. Struben, Esq., showed a splendid collection of fruit, and Mr. J. Davis took first in the table decorations.

Several nurserymen exhibited attractive stands, among them being Messrs. R. Veitch & Son, Horn & Sons, W. B. Smale, Curtis, Sanford and Co., Ltd., South Devon Fruit Farm, W. Allward, J. Heath, G. H. Pearce, W. H. Burridge & Sons, and Edwards & Son. The Show was opened by Mrs. Phillpotts, wife of Capt. A. S. Phillpotts, R.N., M.P. A select programme of instrumental and vocal music was also much appreciated.

ASCOT.—NOVEMBER 2ND AND 3RD.

THE fifteenth annual exhibition of Chrysanthemums, fruit, and vegetables was opened at the Grand Stand in very wet weather on Wednesday, but was not equal to previous efforts.

For twenty-four Japanese, distinct, open class, Mr. W. L. Farmer, gardener to H. P. Leschalles, Esq., The Highams, Bagshot, was the only exhibitor, and was awarded the second position with best blooms of Phœbus (premier), Beauty of Teymouth, and Lady Byron. In the local class for eighteen Japs, distinct, and eighteen incurved, with a silver cup and £3 for first prize, Mr. W. Lane, gardener to Miss J. D. Smith, King's Ride, Ascot, just secured top place by two points. His Japs were Mrs. W. H. Lees, Australie, Oceana, Beauty of Teignmouth, International, Boule d'Or, Mrs. J. Lewis, J. Chamberlain, Snowden, Phœbus, Commandant Blusset, Emily Silsbury, Mrs. G. L. Beer, Mrs. Mair, Lady Hanham, Madame Corner, and Charles Davis. Incurved—Lord Wolseley, J. Agate, Lady Isabel, Duchess of York, Globe d'Or, Prince Alfred, Mrs. R. C. Kingston, Baron Hirsch, C. Curtis, Mrs. J. Murray, Queen of England (poor), Madame Darier, Martigon, Mrs. J. Kearne, Brookleigh Gem, Jeanne d'Arc, E. Cannell, and Rose Owen. Mr. W. L. Farmer was a very close second.

For twelve incurves, distinct, Mr. W. Wilson, gardener to R. C. Christie, Esq., was the only exhibitor, and staged moderate flowers. Six incurved, one variety, Mr. W. Wilson had Charles Curtis in grand form; second, W. L. Farmer with the same variety. Twelve Japs, distinct, Mr. W. Wilson was the only exhibitor with grand flowers for the season. Six distinct, first, Mr. H. White; second, Mr. G. Griffin, gardener to J. Clowes, Esq. Six Japs, one variety white, Mr. W. L. Farmer was first with a seedling Miss Mary Leschalles, pure white with broad petals, reflexed deep flower. For six of any colour Mr. Wilson with Edith Tabor was first, and Mr. Farmer with Eva Knowles second.

In the class for a group of Chrysanthemums and foliage, 8 feet in diameter, Mr. W. L. Farmer was an easy first with a splendid arrangement of Cocos Palms and good coloured Crotons; second, Mr. J. Edge, gardener to Lord Harlech, Tetworth, Ascot; third, Mr. J. Cowie, gardener to Sir Thomas Lucas, Bart., Ascot; and fourth, Mr. W. Lane. Group of Chrysanthemums, Mr. H. White was a good first with dwarf well-grown plants; second, Mr. W. Lane; and third, Mr. A. Hawthorn.

Violets, table plants, Grapes, Pears, and Apples, with vegetables, were all well staged by numerous growers.

PARKSTONE.—NOVEMBER 2ND AND 3RD.

THE above Chrysanthemum and Horticultural Society held its sixth annual exhibition in the St. Peter's School Rooms. Although not attempting to rival the shows held in the neighbourhood, yet it is growing in importance each year. Capital entries were received for the various classes, and considering the season the exhibits were remarkably good. In the open classes groups were well staged, and the cut blooms were excellent. Some charming arrangements were shown in the table decorations. Grapes were only poorly shown, but Apples and Pears were very fine, vegetables also being extremely good for the season, although the cottagers' classes were not so well represented as in previous years.

Leonard G. Browne, Esq., of Parkstone, staged a fine group of Australian Chrysanthemums, not for competition, and although only received from Adelaide in May of this year, they were in excellent condition, the best being George Cheeseman, Peter Somerville, and Mrs. George Gunn. Mr. T. K. Ingram, Parkstone, also exhibited a splendid collection of Chrysanthemums and other plants, not for competition. In the open classes Mr. C. Troke, gardener to W. F. Machin, Esq., secured first prize for a group of Chrysanthemums; Mr. G. Palmer, gardener to A. A. Gould, Esq., being second with a group very little inferior to the first. For cut blooms Mr. A. J. Alsopp, gardener to Viscount Portman, was placed first in two separate classes for twelve Japanese, distinct, his best blooms being E. Tabor, Mutual Friend, Madame Carnot, Phœbus, and Australie. Mr. H. H. Mills, gardener to H. J. Fletcher, Esq., was second in the above two classes. Incurved blooms were not so well shown.—J. B. S.

PORTSMOUTH.—NOVEMBER 2ND AND 3RD.

IN the Town Hall the annual autumn exhibition was held, and it was one of the best of the series. Cut blooms were undoubtedly the feature of the show, and the quality was quite up to the average. Fruit and vegetables were well staged.

The principal class was for forty-eight in thirty-six varieties, half to be incurved and the remainder Japanese. Four competed, making an attractive display. Mr. C. Penford, gardener to Sir F. FitzWygram, Bart., Leigh Park, Havant, succeeded in winning the premier award owing to the superior quality of his Japanese blooms, which were large, highly coloured, and well staged. The Japanese varieties were—Pride

of Exmouth, Pride of Madford, Edith Tabor, Mons. Chenon de Léché, Mdle. M. A. de Galbert, Lady Hanham, Phœbus, E. Molyneux, Modesto, Mrs. G. Carpenter, Vivian Morel, Col. W. B. Smith, Ella Curtis, Mrs. C. H. Payne, Madame Gustave Henri, Mrs. W. H. Lees, Eva Knowles, and Australie. The incurved were somewhat uneven, but fresh and well staged, the varieties being Lord Wolseley, Jeanne d'Arc, Duchess of Fife, Dorothy Foster, Madame Darier, Miss M. A. Haggas, Mrs. R. C. Kingston, Princess of Wales, Brookleigh Gem, R. Petfield, Violet Foster, Mrs. S. Coleman, Lucy Kendall, Triomphe d'Eve, Lady Isabel, Austin Cannell, and Violet Tomlin. Mr. W. G. Adams, Clarendon Road, Southsea, won second position with a really good stand of incurved, but with weak Japanese. Mr. F. G. Foster, Brockhampton Nurseries, Havant, was a creditable third.

The Japanese section produced keen competition for twenty-four blooms, Mr. J. Agate, The Nurseries, Havant, winning first place with a really good set. Madame Carnot, President Nonin, Australie, Mrs. W. Mease, Milano, Mons. Hoste, Australian Gold, M. de la Rocheterie, Lady Hanham, Madame Philippe Rivoire, and Mrs. W. Poppam were the most noteworthy. Mr. Penford second, and Mr. Woodfine, gardener to Major Boyd, Emsworth House, close third.

The cut blooms staged by amateurs were most creditable. Messrs. White, Courtneil, and H. H. Lees, Southampton, securing the prizes in the order named for twelve Japanese. For growers in Portsea Island only, numerous classes were provided. For twenty-four Japanese, Mr. White won with a really good set, Mr. Adams securing a like distinction for the same number of incurved specimens.

Groups of Chrysanthemums and foliage plants were of fair quality, Messrs. Agate and Foster securing the first and second prizes in the order here given. Mr. Bevans, Landport, was placed first for six specimens, freely flowered, and informally trained. In the amateurs' division of this section of the show, Mr. J. Nantes, Buckland, was the most successful exhibitor.

The N.C.S. certificates were awarded to Messrs. Penford and Adams, the former for his forty-eight blooms, previously alluded to, and the latter for his stand of incurved.

WOKING.—NOVEMBER 2ND AND 3RD.

THE fifth Chrysanthemum show of the Woking Horticultural Society was held on the 2nd and 3rd of November in the New Church Hall. The total entries in the cut flower classes were three below the previous show, while the competition for fruit and vegetables was of considerably higher merit and entries more numerous. Two groups were arranged for the silver challenge cup, both being exceedingly good in quality and tastefully arranged. R. M. Stevens, Esq., Woodham (gardener Mr. A. F. Leabrook), succeeded in wresting the trophy from the previous holder, Mrs. Goldingham, Annersley Park (gardener Mr. Tomlin). The winning group was comprised of dwarf plants with fresh and well finished flowers, the second being taller with heavier flowers, but not so fresh.

The silver challenge vase for twenty-four Japanese and twenty-four incurved blooms was again won by E. Bruce, Esq., The Beeches, Walton (gardener Mr. Jinks). His best Japanese blooms were Mrs. H. Weeks, Oceana, Australie, M. Hoste, Werther, Lady Hanham, Edith Tabor, President Nonin, and Mrs. F. A. Bevan. Incurved, C. Curtis the best incurved in the show, Topaze Orientale, Lord Hawke, Rose Owen, Dorothy Tomlin, Duchess of Fife, Ma Perfection, and E. Cannell. Second Mrs. Anderson, Farnham (gardener Mr. Gaymer), whose Japanese were good but incurved much below the winners.

For twenty-four Japanese Mr. Shoemith, Claremont Nurseries, Woking, was first with good examples of Edith Tabor, Robt. Powell, E. Molyneux, Werther, Australie, and Master H. Tucker; second, C. A. Pearson, Esq., Frensham Place (gardener, Mr. W. J. Prewett). For twelve Japanese H. A. Needs, Esq., Horsell, was first with the best stand in the show, most of his blooms surpassing anything else exhibited, Oceana, which was awarded the silver medal for the best Japanese, being exceedingly fine in size, colour, and freshness. Second, H. W. Lillem, Esq., The Pines, Horsell (gardener, H. Brown). For six Japanese Mr. W. Baxter, The Nurseries, Woking, was first; and J. Courtney, Esq., Weybridge (gardener, W. C. Pagram), second. For six Japanese, one variety, Mrs. Anderson first with Madame Carnot; and Mr. F. A. Wellesley, Woking, second with Edith Tabor. For twelve incurved W. L. Cohen, Esq., Englefield Green (Mr. A. Stunt, gardener) was first; and Mrs. Anderson second. A. G. Clinton, Esq., was the most successful amateur, his board of six Mutual Friend being remarkably good. [

WOLVERHAMPTON.—NOVEMBER 2ND AND 3RD.

THE members of the Chrysanthemum Society at this enterprising town must certainly feel gratified at the rapid strides the Society has made during its short career, which began some five or six years ago. Each year the Exhibition seems to increase in magnitude and importance, and it now undoubtedly ranks among the "great" shows of Britain. The Drill Hall in which the exhibits were staged is a splendid building for the purpose, and as the plan of arrangement adopted was one which could scarcely be improved upon, the combined efforts of the numerous exhibitors resulted in a surpassingly fine display. Japanese Chrysanthemums and groups were the strong features. Fruit, though not largely shown, was of very high quality, and vegetables on the whole were good. A tremendous amount of work is entailed in carrying out the arrangements of such an exhibition, but at Wolverhampton there is a strong committee, the members of which seem to vie with each other in their efforts to make the Show a success, and with Mr. J. H.

Wheeler as Secretary, and Mr. Bradley as Chairman, the work progresses smoothly.

For a group of Chrysanthemums not to exceed 11 feet by 8 feet, £4 and a silver cup valued at £10 were offered as the first prize, the cup to become the property of the exhibitor who first wins it twice. Four splendid groups were set up, the premier award being won by Mr. W. Shingler, gardener to T. G. Baker, Esq., Compton, whose arrangement was an exceedingly effective one. Mr. G. Bradley, gardener to Miss Perry, Wergs Hall, was a good second; and Mr. T. King, gardener to S. T. Mander, Esq., Wightwick Manor, third. For a group of Chrysanthemums and foliage plants, to occupy a space not exceeding 9 feet by 6 feet, arrangement, style, and general effect to be considered, Mr. Simpson, gardener to C. T. Mander, Esq., scored a good win. Mr. J. Minton, gardener to F. Sander, Esq., The Terrace, Oaken, was second; and Mr. G. Hancox, High Street, Bromwich, third. For one Japanese Mr. Simpson was first with a well grown example of W. Tricker. Mr. J. Hughes, Tettenhall Wood, won with a single incurved specimen, the variety being Mrs. Dixon. Mr. Simpson was again to the fore for one plant of Pompon with Sœur Melanie in fine condition; and Mr. Jones, gardener to Mrs. Earp, secured the first prize for one plant of a single variety.

The display of Japanese Chrysanthemums was a magnificent one, the winning exhibit being excellent. Many good incurved blooms were shown, but in several instances flat ones, or undeveloped centres, showed that the fixture was rather too early for this section. For thirty-six incurved Mr. F. G. Foster, Brockhampton, Havant, Hants, won well, securing £4 and a silver cup of £5 value, with a stand of very fine flowers, many of which were deep, true to colour, and well finished. The varieties were Dorothy Foster, Mrs. R. C. Kingston, Duchess of Fife, Lord Wolseley, Mrs. N. Molyneux, Lady Isobel, Violet Tomlin, J. Murray, Prince Alfred (grand), C. H. Curtis (fine), Prince of Wales, Madame Ferlat, J. Pearce, Queen of England, Rena Dula, Ma Perfection, Madame Darier (fine), Jeanne d'Arc, Mr. J. Kearns, Golden Nugget, Empress of India, Baron Hirsch, and Brookleigh Gem. Mr. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, was second; and Mr. J. Parkes, gardener to H. Roberts, Esq., Ferndale, Stourbridge, third.

For thirty-six Japanese Mr. S. Cole, gardener to Earl Spencer, Althorp Park, scored a great win with grand blooms of Lady Ridgway (very deep), James Bidencope, Mons. E. André, Edith Tabor (fine), Eva Knowles, Beauty of Teignmouth, Beauty of Exmouth, John Seward (grand), Mons. Chenon de Léché, Secrétaire Fierens, Mons. Gruyer, Julia Scaramanga, Louvrex, Mrs. F. A. Bevan, Phœbus (magnificent), Madame Gustave Henri, Madame Ricoud, Mrs. W. Mecsek, Ella Curtis (fine), Mutual Friend, Elthorne Beauty, President Morren, Mrs. H. Weeks, Mr. C. H. Payne, Dorothy Seward, Lady Byron, G. C. Schwabe, N.C.S. Jubilee, Oceana, Robert Powell, Graphic, William Seward, J. Brooks, E. Molyneux, Thos. Wilkins, and Mrs. W. J. Lewis. The second prize went to Messrs. J. R. Pearson & Sons, Chilwell Nurseries, Notts, who also staged a wonderfully fine stand. Mr. J. Bremmell, gardener to H. H. France Hayhurst, Esq., Wellington, Salop, was third; and Mr. Goodacre fourth. For twelve incurved Messrs. Pearson & Sons were a good first with large well-developed blooms, the varieties being Perle Dauphinoise, Miss Foster, Ernest Cannell, Lady Isobel, Empress of India, Ami Hoste, Queen of England, Lord Alcester, Topaze Orientale, Jeanne d'Arc, Globe d'Or, and Mrs. N. Molyneux.

For a similar number of Japanese the last named firm was again to the front with a stand of solid, well-coloured flowers. Some of the most conspicuous were Edith Tabor, Madame Gustave Henri, Australie, and Mrs. G. W. Palmer. A good stand of blooms won for Mr. Simpson the first prize offered for examples of the Rundle family. Mr. R. Jones secured the coveted award for the premier incurved bloom with a grand example of Duchess of Fife, and Mr. Pearson occupied a similar position for the best Japanese bloom, the variety being G. Bruant in very fine condition.

An attractive display was made in the class for floral arrangements, and for a vase of Chrysanthemums Mr. W. Cave, Wellington Lodge, Harborne, secured the first prize. Several classes for fruit and vegetables, as well as for local growers, were provided, and the exhibits staged in them made an attractive display, but space cannot be found to chronicle the achievements of the winners.

SWINDON.—NOVEMBER 2ND, 3RD, AND 4TH.

THE fifth annual exhibition of this Society was held, as usual, in the Swimming Baths, this large hall answering the purpose admirably. There was a good all-round display of plants, cut blooms, fruit, and vegetables. It ought to be added that the Society is largely composed of working men enthusiasts, several of whom contributed largely to the success of the show.

In the principal class for groups of Chrysanthemums, arranged with other plants for effect, there were three competitors, and it was no easy matter to decide which was the best. The groups were circular in form. Mr. R. Henderson, gardener to H. L. Bastin, Esq., was first; Messrs. Rigg and Fixter, Reading, second; and Mr. H. Wright, gardener to Robertson Bertram, Esq., a good third. Mr. Henderson was also first for a group of stove and greenhouse plants, with Messrs. Rigg and Fixter again second and third.

Cut blooms were remarkably good. Five growers competed with twenty-four Japanese in not less than twelve varieties, but Mr. Vallis, Bromham Fruit Farm, near Calne, won rather easily with a grand collection. The varieties included Lady Ridgway, Madame Carnot, Edwin Molyneux, Yellow Carnot, Phœbus, Pride of Exmouth, Louise, Mons. C. de Léché, Mons. Hoste, Pride of Madford, Lady Byron, Australie, Soleil d'Octobre, Colonel Smith, and Madame Gustave Henri.

Mr. Robinson, gardener to Lord Ludlow, Westbury, Wilts, was second. For twelve blooms, Japanese, Mr. Vallis was again first, showing varieties similar to those in the premier class. Second, Mr. Robinson. With six blooms of one variety Mr. Vallis again led with Pride of Madford at its best; second, Mr. H. Wright, who showed fine blooms of W. Seward.

The best twelve blooms of incurved varieties were shown by Mr. Robinson, these consisting of Baron Hirsch, Mrs. R. C. Kingston, O. H. Curtis, Lady Isobel, Miss M. A. Haggas, Miss D. Foster, Austin Cannell, Madame Edmond Roger, D. B. Cranc, and M. J. Kearney, all in good condition. Second, Mr. J. Humphries, gardener to J. L. Burgess, Esq.

Noteworthy among the non-competitive exhibits was a fine display of Princess of Wales, Victoria, Primavera, Italia, California, and other large-flowering single Violets shown by Messrs. Isaac House & Son, Westbury-on-Trym, Bristol.

COLCHESTER.—NOVEMBER 3RD.

THE annual Show of the Colchester Rose and Horticultural Society was held in the Corn Exchange on the above date. The building is admirably adapted to such a purpose, as the staging committee was enabled to show off the good points of every exhibit. The schedule of the Society is one of the most comprehensive and best arranged that we have seen. All the rules are clearly laid down, and are largely based on the R.H.S. "Rules of Judging," than which no better guide could be chosen. Railway companies serving towns in which great shows are held might follow the example of the Great Eastern, who issue return tickets at single fares by any of the ordinary trains within a wide radius.

The exhibition of fruit was excellent. Apples and Pears represented fine culture, and were handsomely coloured. Fine Cox's Orange Pippin Apples were beaten in the dessert class by splendid Allington Pippins from Mr. Wallace. Vegetables again were grand, but in neither of these cases will the pressure on our space at this period permit us to enter into details, highly as both were worthy of such attention. An attractive non-competitive exhibit was that from Mr. E. Abbott, Ardleigh, who staged a fine collection of Dahlias in about fifty varieties.

In the Chrysanthemum section the chief interest was centred in the class for a group of Chrysanthemums, with an edging of foliage plants, arranged in a space 10 feet by 6 feet, with a circular front, for quality and effect. There were five exhibitors, of whom Sampson Hanbury, Esq., Wyvenhoe Park, was placed in the premier position with an exceedingly fine group. For a smaller group of Chrysanthemums the chief prize-winner was Mr. A. K. Barlow.

Great interest was concentrated upon the class for twenty-four Chrysanthemums, distinct, though there were only two competitors. The stand which gained for James Paxman, Esq., the premier award was composed of fine, even, fresh blooms, of which the most prominent were Modesto, Duke of Wellington, Australian Gold, Eda Prass, N.C.S. Jubilee, President Nonin, and Madame Gustave Henri. Mr. R. C. Notcutt, Ipswich, was a capital second with best examples of Beauty of Teignmouth, Mrs. W. Mease, Croda, Australie, Leonard Brown, and President Nonin. For twelve blooms J. Paxman, Esq., was again in the front with Lady Hanham, Phœbus, Madame Carnot, N.C.S. Jubilee, Duke of Wellington, and Pride of Madford. H. G. Egerton Green, Esq., was second; T. Moy, Esq., third; each showing well. For twelve Japanese the first and second prizes fell to J. Paxman, Esq., and H. G. Egerton Green, Esq., respectively.

Maintaining his position in the van, J. Paxman, Esq., was a splendid first for twelve incurved, distinct, with a well-balanced stand of fine flowers. There were Madame Darier, C. H. Curtis, Duchess of Fife, Baron Hirsch, Globe d'Or, Jeanne d'Arc, and others. Once again Mr. H. G. Egerton Green had to be content with second place, followed by Mr. G. W. Fincham, who took third position. In a restricted class for twelve blooms, distinct, Mr. G. W. Fincham was first with excellent examples of Edwin Molyneux, N.C.S. Jubilee, Lady Hanham, and Charles Davis. Mr. R. R. Greenslade, Gt. Bromley, was second. For six Japanese, distinct, Mr. C. Metoll, Ardleigh, was first; Mr. T. Bunting second; and Mr. R. R. Greenslade third.

"The Borough Members' Cup," value 3 guineas, for twelve blooms in eight distinct varieties, and not more than two blooms of any one variety, was capitally won by Mr. G. W. Fincham, who staged in strong form Madame Carnot, Lady Hanham, Charles Shrimpton, Charles Davis, Edith Tabor, and Vivian Morel. Mr. Fincham also annexed the N.C.S. silver medal for the best stand of twelve blooms offered to residents in the borough. J. Paxman, Esq., secured the N.C.S. certificate for the best Japanese bloom in the show, with a handsome example of Duke of Wellington.

The arrangements of the exhibition, in the capable hands of Mr. Osmund G. Orpen, of Tea Rose fame, were excellent. Everything was ready for the Judges at the appointed time, and the show was thoroughly deserving of the public support with which comes success.

DORKING.—NOVEMBER 3RD AND 4TH.

THE annual Chrysanthemum show in connection with the Dorking and District Horticultural Society was held at the Public Hall on the dates named, and on the whole was quite up to the average, while in many of the classes an improvement was noticeable on last year. Mr. Bain, gardener to Sir Trevor Lawrence, Bart., was awarded premier honours for twelve each of Japanese and incurved varieties, which carried with it the silver cup given by Mrs. Perkins. The groups of miscellaneous plants

and of Chrysanthemums were an attractive feature, the first in the former being taken by W. A. Calvert, Esq., while another resident of Capel, Mr. Mr. C. Mortimer, was a good second. In the class for trained specimens, Mr. F. King, gardener to A. F. Perkins, Esq., of Oakdene, Holmwood, was an easy winner, his collection including the handsome Japanese variety Mrs. W. Mease. There was keen competition, as usual, in the table decorations, for which there were five entries. Mrs. H. J. Ivery was awarded first prize with an exceedingly tasteful combination. Foremost among the non-competitive section was a magnificent group of Chrysanthemums, staged by Mr. Chamberlain, head gardener to her Grace Lily Duchess of Marlborough, who also sent a collection of winter flowering Begonias, all of which were specimen plants. Sir Trevor Lawrence (President) enriched the show with a choice group of Begonias, Salvias, yellow Arum Lilies, and a grand specimen of Acalypha Sanderi, and visited the show early on the opening day. Mr. F. J. Hammond assisted Mr. Ivery in the secretarial duties.

EXETER.—NOVEMBER 3RD AND 4TH.

THE Chrysanthemum and Fruit Exhibition of the Devon and Exeter Horticultural Society was held on the above dates, this being the 188th exhibition of the Society. The Victoria Hall, with a lesser hall adjoining, is well adapted for the purpose, and presented on this occasion an imposing appearance. Fruit was excellent.

The groups, of which there were six of Chrysanthemums, were arranged in circular form, and a foliated plant of some kind, as Palm or Dracæna, must be used as a centrepiece, with small Ferns or foliage plants for an edging, which relieves the flat character often seen when Chrysanthemums alone are admitted. Mr. Roland, gardener to W. Brock, Esq., Parkerswell House, Exeter, won the first place, his group being very good. Second, Mr. Baker, gardener to Lady Duckworth; third, Mr. Stocker, gardener to W. Pring, Esq., both very close in merit. In a smaller class Mr. Rogers, gardener to G. Randall Johnson, Esq., was first with plants carrying large flowers; second, Mr. J. Abram, gardener to T. Kekewich, Esq.

The principal cut bloom class was for thirty-six Japanese, distinct, and on this occasion the competition was not as keen as usual, three collections being staged. Mr. G. Foster, gardener to H. Hammond Spencer, Esq., Teignmouth, won with large and even blooms, among which were Oceana, Chas. Davis, Mrs. Maling Grant, Madame Carnot, Australie, Phœbus, Lady Ridgway, and Pride of Exmouth. Second, Mr. Mairs, gardener to Sir J. Shelley, Bt., Shobrooke Park, Crediton; third, Mr. Stiles, gardener to Rev. G. Lyons, Teignmouth. For eighteen Japanese Mr. Mairs obtained the first place, Mr. Foster coming second, and Mr. G. Merrett, gardener to R. B. Ashby, Esq., third. With twelve Japanese Mr. W. Smeeter, gardener to J. W. C. Washington, Esq., was first, and Mr. R. Yeo, gardener to R. B. James, Esq., second.

For six yellow of one variety Mr. Stiles was first with grand Phœbus, one of the flowers being selected as the best Jap in the show. Mr. Mairs was second with fine blooms of Edith Tabor. For a similar number of white blooms, Mr. T. Tucker, gardener to the Rev. E. E. Heathcote, was first with Madame Carnot, and Mr. Mairs second with the same variety. For six of any other colour, the last-named exhibitor was first with Beauty of Teignmouth; second, Mr. Stiles, with Chas. Davis. Mr. Stiles was also first with twelve distinct reflexed Japanese.

The incurved were poorly represented, some of the classes failing to bring any exhibits, and others call for no comment. Mr. H. Mitchell was first for six bunches Pompons and the same number of singles. Amateurs' exhibits were good, some of the Japanese blooms almost equaling those in the open classes. Table plants, Bouvardias, Solanums, Poinsettias, Violets, and many others were exhibited in numbers, the Violets in 6-inch pots being remarkably good and the competition keen. In the first prize exhibit there were over thirty open flowers on each pot. The variety was Marie Louise.

Among miscellaneous exhibits, Messrs. R. Veitch & Son, Exeter, contributed a group of Chrysanthemums, Cannas, and mixed plants, and 100 dishes of Apples; the Exeter Nursery Company a fine group of Palms, foliage plants, and Chrysanthemums, besides an extensive exhibit of beautiful floral designs; and Messrs. Jarman, Chard, a collection of Apples.

LEAMINGTON, WARWICK, AND DISTRICT.

NOVEMBER 3RD AND 4TH.

THE exhibition, which was held in the Winter Garden of Leamington Spa on the above dates, was quite as attractive as any previously held by the Society; indeed, in some respects it surpassed any previous show held there. Japanese Chrysanthemums in the principal class were superb, and Grapes, though not shown in large numbers, were grand, fully equal to those seen at shows of great magnitude. This year the prize list was considerably curtailed owing to financial difficulties, but the local trade firms came splendidly to the rescue, and their combined efforts made a fine display. No pains were spared by the hardworking Committee (with Mr. J. Kittley as Chairman and Mr. F. A. Hinton as Secretary) to make the affair a financial success.

The principal class was that provided for thirty-six Japanese Chrysanthemum blooms, distinct. A cup of £5 value was generously offered by C. A. Smith-Ryland, Esq., as the first prize. Three competitors entered the fray, and Mr. Chandler, gardener to the Hon. Mrs. A. James, Coton House, Rugby, won the coveted award easily with a grand exhibit, the blooms being noteworthy for their great depth, solidity, and fine colour. The varieties staged were Madame Gustave Henri (very large and clean), Lady Ridgway (deep), Edith Tabor, Ethel Addison, Mrs.

B. Spaulding, Mrs. J. Shrimpton (fine), Mons. Hoste, Mr. G. H. Payne, International (good colour), Ella Curtis (grand), Mrs. G. Carpenter, Mrs. H. Weeks (of wonderful size and solidity), Richard Dean, Madame Louise Renny, Pride of Madford, Lady Byron, Duke of Wellington, Mutual Friend, Phœbus (very bright), Emily Silsbury, President Morren, Helen Owen, Miss E. Teichmann, Reine d'Angleterre, Lady Esther Murray, President Borel, Mdlle. M. A. de Galbert, Mons. Panckoucke, Hairy Wonder, Madame M. Ricoud, Mrs. Maling Grant, Lady Playflower, E. Molyneux, Louise, James Bidencope, and G. C. Schwabe. The second prize went to Mr. Liney, gardener to W. Lowe, Esq., Wellesbourne House, Warwick, who also had good blooms; the third prize being won by Messrs. Hinton Bros., Warwick.

Mr. Lowe offered £3 as the first prize for a collection of fruit, three bunches of Grapes, three dishes of Apples, and three of Pears being required. Mr. Chandler scored another good win in this class with superb examples of Muscat and Black Alicante Grapes, also good Apples and Pears. Mr. C. Walters, gardener to Lord W. de Broke, Compton Verney, was a good second; and Mr. Williams, gardener to Mrs. Mann, Leamington, third. The following Leamington trade firms staged excellent exhibits of plants and cut flowers:—Messrs. F. Perkins, Finch and Co., The Leamington Nursery Co., R. Greenfield, W. Vause; and Hinton Bros., Warwick, a large collection of Apples.

MAIDENHEAD.—NOVEMBER 3RD AND 4TH.

THE Town Hall was quite filled on the occasion of the first Chrysanthemum, fruit, and vegetable show. The exhibits compare very favourably with any that have yet been held. The pressure on our space just now will not admit of a detailed account of the fruit and vegetable classes. The latter were excellent, as were the decorative classes throughout the show.

In the class for twenty-four Japanese and twelve incurved varieties Mr. J. Fulford, gardener to J. D. Lambert, Esq., Cookham, secured the premier position with a capital display. The varieties were Modesto, E. Molyneux, Australie, Madame Carnot, Madame G. Bruant, Mrs. J. Lewis (grand), Oceana, John Neville, Mutual Friend, Thérèse Rey, Phœbus, Bellem, Joseph Brooks, James Bidencope, Simplicity, Mrs. H. Weeks, Mrs. M. Grant, and General Roberts in the former section; while the latter were represented by Lady Isobel, Duchess of Fife, Violet Foster, C. H. Curtis, Dorothy Foster, Mons. R. Bahuant, Mrs. R. C. Kingston, Madame Darier, Lord Wolseley, Golden Nugget, Mrs. S. Coleman, and Thomas Logie. Mr. G. Lane, gardener to Miss Ridge, Englefield Green, was placed second. The incurved varieties here were very strong. The best flowers were Mrs. R. C. Kingston, Duchess of Fife, Chas. H. Curtis, Rose Owen, and Mr. Jas. Murray. Vivian Morel, Australie, Oceana, Mrs. Chas. Blick, and Madame Carnot were good in the Japanese section.

For eighteen blooms Japanese, distinct, arranged with any foliage, Mr. T. Wood, gardener to the Right Hon. Lord Boston, was placed first with a very effective display. Mr. W. Davis, gardener to H. Adams, Esq., Cannon Hill, must have been a close second, the blooms being very fine. Four competitors staged for twelve blooms Japanese, distinct, Mr. J. Fulford coming out first with a good strong board. The varieties were: International, G. J. Warren, Graphic, Mrs. J. Lewis, Jos. Brookes, Miss E. Teichman, Australie, Mr. F. Brewer, Madame Carnot, E. Molyneux, Mrs. M. Grant, and Mutual Friend. Mr. D. M. Hayler, gardener to Mrs. Langworthy, Holyport, was second with good blooms of Edith Tabor, Australie, Lady Byron, and Eva Knowles. Mr. J. Minty, gardener to C. Laxton, Esq., Cookham, was third. For six Japanese blooms, one variety, Mr. J. Fulford led with six fine specimens of Oceana. Mr. J. Minty was second, and Mr. W. Hutt, gardener to Capt. Farwell, Burnham, third. The incurved varieties were very good, Mr. J. Wood was first with Duchess of Fife; Mr. D. M. Hayler was second, and Mr. W. Davis third. The competition for the group of Chrysanthemums was very keen, Mr. W. Davis winning the first prize with a capital group of well-grown plants. Mr. E. Wingrove, gardener to C. Gilder, Esq., Clarendon, was second with dwarfier plants, and Mr. W. H. Austin third.

In the competition for a group of miscellaneous plants Mr. J. Fulford repeated his successes with a very effective group, and Mr. T. W. Richardson, gardener to G. Herring, Esq., was second with a bright display. The miscellaneous exhibits contributed in no small degree to make the show attractive. Messrs. G. Bunyard & Co., Maidstone, staged a grand display of Apples in about sixty varieties. They were remarkably bright and clean. Mr. R. Owen, Maidenhead, contributed a fine group of Chrysanthemums, which included most of the new varieties, also the seedlings of the firm. Mr. W. Broughton, Maidenhead, staged a large collection of Chrysanthemums and autumn blooming plants, and Mr. D. Wilson, Maidenhead, sent a bright group of plants.

PLYMOUTH.—NOVEMBER 3RD AND 4TH.

THE West of England Chrysanthemum Society held its seventh annual meeting on the dates named in the Guildhall, and it was in every way a success. The entries were more numerous than usual, while the quality throughout was about the average. The arrangements were admirable under the guidance of Mr. C. Wilson, the Hon. Secretary.

Cut blooms provided the greatest amount of interest, so well were they staged. The leading class was for forty eight Japanese, in not less than twenty-four varieties, the leading prize being £10, and the entries six. The premier award was rather easily won by Mr. G. W. Drake, Cathays Nurseries, Cardiff, who staged grandly developed specimens of Lady Hanham, Edwin Molyneux, Madame Carnot, Mrs. G. W. Palmer, Mrs. J. Lewis (extremely large), James Bidencope, M. Chenon de Léché, Edith Tabor, Mutual Friend, Mons. Gruyer, Pride of Exmouth, Lady Ridgway,

Australie, Robert Powell, Thos. Wilkins, Ella Curtis (fine), Mrs. C. H. Payne, Vivian Morel, Pride of Madford (grandly coloured), G. C. Schwabe, Madame Gustave Henri, Mrs. W. H. Lees, Elthorne Beauty, Dorothy Seward, Mrs. G. Carpenter, Mrs. H. Weeks, M. G. Bruant, Joseph Brooks, and Simplicity. Mr. G. Foster, gardener to H. Hammond Spencer, Esq., Glendarrah, Teignmouth, was a capital second, and Mr. W. H. Fowler, Claremont, Taunton, a close third.

The first prize for twenty-four Japanese was well won by Mr. G. Stiles, gardener to Rev. G. Lyon, Teignmouth, with a collection of fully developed, highly coloured specimens. Baron A. de Rothschild, Lady Hanham, M. Hoste (very fine), and Milano were the most noteworthy. Messrs. Foster and Fowler followed in the order their names are here given. Mr. G. H. Paddon, gardener to H. Leah, Esq., Trevervene, won the premier award for twelve Japanese. Mr. G. Stiles was a close second. For six incurved Japanese Mr. Paddon was the most successful; Mr. Foster second.

Grand examples of Souvenir de Petite Amie won for Mr. Farmer, gardener to the Misses Carew, Buckfastleigh, the premier place for six white Japanese. Mr. Foster was second with Mrs. J. Lewis. For six Japanese any other colour but the foregoing, there was brisk competition. With Australian Gold in grand condition, Mr. Paddon won easily; Mr. Stiles second with Phœbus, Mr. Foster following with Australie.

Incurved varieties were moderately represented. For twenty-four in eighteen varieties, Mr. T. Wilkins, gardener to Lady Theodore Guest, Inwood House, Blandford, won the premier award. Mr. Foster was second with much smaller examples, but more in keeping with the true Chinese section. For twelve incurved these two exhibitors reversed the former position, the winning stand, containing many really good examples. Anemone flowered sorts were fairly represented.

For a floral display in a space 6 feet by 5 feet, Messrs. Perkins, Coventry, were simply invincible with one of their characteristic exhibits. Mr. J. Arnold, Stoke, was second, and Mr. J. Tomlinson, Devonport, third. Groups of Chrysanthemums and foliage plants, arranged to fill a space of 100 square feet were a feature of the show. Mr. J. Webber, Plymouth, secured the leading award with plants carrying good blooms; Lady Jackson, Ponuds, Plymouth, was second.

PUTNEY AND WANDSWORTH.—NOVEMBER 3RD AND 4TH.

THE Putney and Wandsworth Society held its twenty-first annual exhibition in the Town Hall, Wandsworth, on November 3rd and 4th. The show was a good one, the competition in many classes being very keen, and the quality of the exhibits A1. The Society is most fortunate in having an energetic Honorary Secretary in Mr. J. McLeod, Dover House Gardens, Roehampton, whose excellent arrangements gave the greatest satisfaction to all concerned. He is well supported by Mr. G. H. Pitt, who has been Hon. Treasurer since the show commenced, and a good working Committee. The show was opened by Mark Mayhew, Esq., the new President, who made an excellent and encouraging speech.

The principal feature was the competition for the tradesmen's Jubilee challenge cup, value 25 guineas, and £4. The same exhibitor who won it last year maintained his position, and takes the cup, having won the same in accordance with the rules, the fortunate winner being Mr. George Hunt, gardener to P. Ralli, Esq., Ashted Park, Epsom, who showed excellent blooms. Second, Mr. King, gardener to A. J. Parkins, Esq., Holmwood. Third, Mr. McLeod, Dover House Gardens, Roehampton. All showing well.

Groups were well shown (40 feet super). First, Mr. W. Lee, gardener to Mrs. E. Gorden, Wiscombe Lodge; second, Mr. C. Taylor, Belmont Gardens, Wimbledon. Specimen plants, with the exception of the prize-winners, were poor; Mr. Bentley, gardener to Major Bosworth, Roehampton, securing the first prize with well-grown plants. The same exhibitor secured the first for twenty-four incurved blooms, twelve incurved, six Anemones, six Pompons, twelve Japanese, and six Japanese. Mr. Meynell, gardener to J. Carlisle, Esq., was first for reflexed.

Special prizes were offered for bouquets and floral designs, likewise for cut flowers of Chrysanthemums, vases, baskets, and sprays, and they brought forth interesting and splendid competition. For twelve vases of cut flowers with their natural foliage, three flowers in each, the cup winner just landed first; second, Mr. McLeod; third, Mr. John French, Ambleside House.

Amongst the miscellaneous exhibits, not for competition, Messrs. Veitch & Sons, Ltd., showed a magnificent group of stove and greenhouse flowering and foliage plants, elegantly filling one end of the spacious hall. There were graceful Palms, well-coloured Dracænas, Crotons, hybrid Rhododendrons, Amasouia punicea, Begonia Gloire de Lorraine, Nerine Fothergilli major, Bouvardias, Ericas, and many Ferns. Mr. W. A. Holmes, Putney Nurseries, showed floral designs, wreaths, sprays, and baskets artistically arranged, as did Mr. G. Stevens, Putney. Mr. J. Gold, Southfield Nursery, sent a good collection of stove and greenhouse plants and hardy shrubs. It is pleasing to state everything passed off most satisfactory. The Committee, Judges, and exhibitors lunched under the presidency of Mr. H. Pitt, Hon. Treasurer.—A. O.

BATTERSEA.—NOVEMBER 4TH AND 5TH.

THE seventh annual show of the Battersea and District Chrysanthemum Society was held in the Town Hall, Battersea, on the above dates. The Hall was fairly well filled with groups of plants and with Chrysanthemums on boards and on the plants, as well as baskets of flowers and other floral designs. In one direction there is room for improvement, and that is in the time of the completion of the staging. The schedule states that the judging will commence at 11 A.M. precisely,

whereas it did not commence until 12.10. This causes inconvenience to everyone.

In the open class for eighteen Japanese, in not less than twelve distinct varieties, there was only one exhibitor, who received the second prize. This was Mr. A. J. Povey, gardener to R. Mayne, Esq., Larkhall Lane. The flowers were of fair average quality. For twelve Japanese, in not less than eight varieties, Mr. Povey took first prize with a decidedly stronger stand, in which G. J. Warren, Mrs. H. Weeks, Mrs. G. Carpenter, and Pride of Madford were conspicuous. The third prize was



FIG. 63.—CHRYSANTHEMUM MISS MARY ANDERSON.

adjudged to Mr. T. Macgregor, The Gardens, North House, Putney Hill, the second award being withheld. In the classes for six Japanese distinct and six incurved distinct second prizes only were awarded, these going respectively to Messrs. A. J. Povey and T. Macgregor, they being the only staggers.

In the amateurs' section the chief cut bloom class was for twelve Japanese, and the Ryecroft silver-gilt medal that was offered as a premier prize was annexed by Mr. G. J. Nannes, Montholme Road, Wandsworth Common, whose flowers, though small, were fresh and of good form. Messrs. W. G. Bond, Francis Street, Battersea, and W. H. White, Latchmere Road, Battersea, took the remaining two prizes. Mr. W. J. Underwood, Wandsworth, was in capital form in the class for six Japanese, distinct, and easily secured the first prize, as also did he in another class for six Japs. In the latter instance he was followed by Messrs. J. O.

Langrish and W. G. Bond. For six Japanese, one variety, Mr. C. Hemstead, Wilson Street, Battersea, was first with Charles Davis, and Mr. W. H. Bond second with *Australie*. Mr. J. O. Langrish was first for six Japanese, white varieties, Mr. G. J. Ninnes being second, and Mr. W. H. White third.

Miscellaneous exhibits, "not for competition," were not very numerous. Mr. J. R. Box, Croydon, sent good Apples, with Dahlias and Begonias; Mr. R. Neal, Wandsworth Common, stove and greenhouse flowering and foliage plants; Messrs. I. House & Son, Westbury-on-Trym, superb Violets; Mr. J. H. Knowles, Lavender Hill, Cacti; and Mr. E. Mills, gardener to Frank Lloyd, Esq., Croydon, and Mr. J. Thorne, gardener to R. C. Garton, Esq., Worplesdon Place, Guildford, stands of fine Japanese Chrysanthemums.

ST. NEOTS.—NOVEMBER 7TH.

THERE is a vigour and youthful energy in this Society that have enabled it for fifteen years to provide an annual exhibition of great merit. It is evident that in this period much has been done to encourage horticulture in the district of Huntingdonshire, which it covers. A representative and united Committee, aided by an Honorary Secretary of exceptional energy, Mr. Wm. Ratchelous, has succeeded in placing the Society upon a substantial basis, and the show of Monday last proved most satisfactory. The quality of the exhibits throughout was remarkably even and creditable to all competitors. Besides Chrysanthemums, fruits and vegetables were well shown.

For a considerable period out of the fifteen years the Society has been established a champion or challenge vase has constituted the chief feature in the cut bloom classes; but this year money prizes were substituted, and though the entries were not quite so numerous the blooms shown were in all respects admirable. With thirty-six blooms, eighteen incurved and the same number of Japanese, in not less than twelve varieties of each, Mr. T. Lockie, gardener to A. J. Thornhill, Esq., Diddington Hall, won the premier prize with fresh, even, well finished blooms of the following: incurved—*Duchess of Fife*, *Globe d'Or*, *M. R. Babuant*, *Prince Alfred*, *Ma Perfection*, *Baron Hirsch*, *Miss Foster*, *C. H. Curtis*, *J. Agate*, *Lord Wolseley*, and *Rose Owen*. In the Japanese, which were of great size and excellent colour, the varieties were *Edith Tabor*, *Dorothy Seward*, *Pride of Exmouth*, *Mrs. C. H. Payne*, *Madame Carnot*, *General Roberts*, *Beauty of Teignmouth*, *Mons. Panckoucke*, *M. Renoul*, and *C. H. Rozier*. Mr. J. Walker, gardener to J. Linton, Esq., Stirlloe House, was placed second with good blooms, but not quite so substantial as the first. The best twelve Japanese came from Mr. Redman, who had grand blooms. Mr. T. Lockie took the second place this time, followed by Mr. J. Walker.

The class for eighteen incurved and the same number of Japanese was a good one. The competition was keener than in any other cut bloom class; in fact the Judges found it necessary to point the whole of the blooms, with the result that the prizes went in the following order—First to Mr. Redman; second to Mr. Stevens, gardener to the Hon. Mrs. Duberley, Gaynes Hall, St. Neots; and Mr. J. Pack, gardener to A. C. Sweeting, Esq., Huntington. For six Japanese of one variety, Mr. Thomas, gardener to Lady Esmé Gordon, Paxton Park, St. Neots, was deservedly first for superb blooms of *Phœbus*, which for size, colour, depth, and freshness, have rarely been equalled at this show. Mr. J. Walker was second with very fine blooms of the peculiar *Van den Heede*. Mr. T. Lockie had the best twelve incurved, even, solid, and handsome blooms of moderate size.

Chrysanthemum plants were not numerous, and the specimens seemed scarcely sufficiently advanced. Mr. Redman won the leading prizes for trained plants, and Mr. J. Pack was first for a group, his plants being somewhat tall, but well furnished with foliage, the blooms large, and the arrangement good. Messrs. Redman, Petchey, Tebbutt, and Crow were other prizetakers in these classes.

Floral stands, baskets, vases, and table decorations with buttonholes and bouquets filled one room, and furnished an attractive show in themselves, that part of the exhibition being a constant source of interest to the visitors. Amongst non-competing exhibits, a remarkable display of Dahlias was shown by Mr. T. Burgin, of Eynesbury, and very rarely has such a collection of these flowers been seen at so late a date. The weather was exceptionally fine, and a large company assembled during the afternoon and evening.

HIGHGATE.—NOVEMBER 8TH, 9TH, AND 10TH.

THE fourteenth exhibition was held in the Holloway Hall. The exhibits were much more numerous than usual. The decorative classes were a great feature, as were also the Pompon classes.

Mr. J. Brooks, gardener to W. J. Newman, Esq., Totteridge, succeeded in winning the 10-guinea challenge cup, which now becomes his property. The best blooms were *Modesto*, *Mons. Hoste*, *Oceana*, *Mutual Friend*, *E. Molyneux*, *Pride of Madford*, *Lady Hanham*, and *Australie*. Mr. J. Brooks was again to the front for twenty-four cut blooms, Japanese, with an even stand, which included fine blooms of *Duke of Wellington*, *Australie*, *Edith Tabor*, *Mons. Hoste*, *Phœbus*, and *Mrs. J. Lewis*. Mr. J. Sandford, gardener to G. W. Wright Ingle, Esq., Finchley, was a good second; *Australie*, *Pride of Madford*, *Mons. Chenon de Léché*, and *Jos. Brooks* were very striking. Mr. J. Brooks was again in the premier position for twelve blooms, Japanese, distinct. His best blooms were *Australie*, *Pride of Madford*, *Mrs. W. H. Lees*, *E. Molyneux*, and *Lady Hanham*. Mr. J. Sandford was a good second, and Mr. J. Brooks, gardener to W. Reynolds, Esq., Highgate, third.

The class for twelve Japanese blooms, arranged with foliage, proved a very popular one, Mr. J. Brooks, Totteridge, proving the victor with

a well-arranged stand. Mr. M. Roe, gardener to Col. Wilkinson, Fitzroy Park, was a dangerous second. There were three competitors in the class for eighteen blooms, Japanese, and eighteen incurved, Mr. A. Jones, gardener to Miss Wyburn, Barnet, securing the premier award with a good display, the incurved varieties being very fine. The best blooms were, in the former section, *Mrs. C. H. Payne*, *E. Molyneux*, *Louise*, *Eva Knowles*, and *Madame Carnot*; while Violet Tomlin, Miss M. A. Haggas, Chas. H. Curtis, Lucy Kendall, Mrs. S. Coleman, and Miss Violet Foster were very good in the latter section. Mr. J. Sandford was second with a strong stand of Japanese, but the incurved varieties were much weaker; and Mr. A. Page was third.

The incurved section was well filled. For twelve distinct Mr. A. Jones was first with a well-finished exhibit. The best flowers were *Miss D. Foster*, *Perle Dauphinoise*, *Violet Tomlin*, and *Chas. H. Curtis*. Mr. J. Sandford was second; and Mr. T. L. Turk, gardener to T. Boney, Esq., Highgate, third. For twelve blooms Japanese, one variety, Mr. J. Brooks, Totteridge, was first with a strong stand of *Phœbus*, *Modesto*, and *Oceana*. Mr. J. Sandford was second; and Mr. A. Page third.

For a group of Chrysanthemums to occupy a space of 60 feet Mr. J. Brookes, Highgate, was well ahead with a very bright and effective group. Mr. G. Saunders, gardener to W. Hayes, Esq., Highgate, was second. Mr. J. Brooks, Highgate, was placed first for a group of Chrysanthemums and foliage plants with a splendid group. Mr. J. Tubbs, gardener to H. G. Regnart, Esq., Highgate, was a very good second.

Mr. J. Brooks, Highgate, was first for six trained plants, with good specimens. The same exhibitor also won the first prize for a single specimen, Mr. F. Gilbert being second, and Mr. G. Saunders third. Mr. J. Brooks, Highgate, was again to the fore with six trained Pompons, followed by Mr. F. Gilbert.

Messrs. W. Cutbush & Son, Highgate, exhibited a group of foliage and autumn flowering plants. Messrs. B. S. Williams & Son, Holloway, also contributed a group of Palms, Ferns, and a collection of *Ericas*, *Begonias*, and *Solanums*.

CHRYSANTHEMUM SHOWS.

As is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the coming season. Space, however, can only be found for mentioning those that have been advertised in our columns. We append the dates of such fixtures, with the names and addresses of the various secretaries.

- Nov. 8th, 9th, and 10th.—BIRMINGHAM.—J. Hughes, Harborne, Birmingham.
- " 8th, 9th, and 10th.—ROYAL AQUARIUM (N.C.S.).—R. Dean, Ranelagh Road, Ealing.
- " 8th, 9th, and 10th.—HIGHGATE.—W. E. Boyce, Highgate.
- " 9th and 10th.—BROMLEY.—W. Weeks, 29, Widmore Road, Bromley.
- " 9th and 10th.—HANLEY (Staffs).—J. and A. Kent, Hanley Park.
- " 9th and 10th.—LIVERPOOL.—Dickson and Sadler, 7, Victoria Street, Liverpool.
- " 9th and 10th.—CARDIFF.—H. Gillett, 66, Woodville Road, Cardiff.
- " 9th and 10th.—BOURNEMOUTH.—J. Spong, Lindisfarne Gardens, Bournemouth.
- " 10th.—WALTON AND WEYBRIDGE.—G. Masters, Walton Road, East Molesey.
- " 10th.—WINDSOR.—Secretary, Chrysanthemum Society, Windsor.
- " 11th and 12th.—ALTRINCHAM.—E. C. Moore, 22, Railway Street, Altrincham.
- " 11th and 12th.—HUDDERSFIELD.—J. Bell, Marsb, Huddersfield.
- " 11th and 12th.—ECCLES.—H. Huber, Hazeldene, Winton, Patricroft.
- " 11th and 12th.—BRADFORD.—R. Eichel, 16, Westcliffe Road, Shipley.
- " 11th and 12th.—DERBY.—J. H. Bell, Normanton Road, Derby.
- " 11th and 12th.—SHEFFIELD.—W. Housley, 28, Joshua Road, Sbeffield.
- " 15th and 16th.—WINCHESTER.—C. Shenton, Winchester.
- " 15th and 16th.—BELFAST.—J. MacBride, Victoria Square, Belfast.
- " 15th and 16th.—BRIGHTON.—Secretary, 1, Dyke Road Drive, Brighton.
- " 15th and 16th.—LEEDS.—James Campbell, The Gardens, Methley Park, Leeds.
- " 16th and 17th.—BIRKENHEAD.—W. Bassett, 23, Grove Road, Rock Ferry.
- " 16th and 17th.—HULL.—Harland and Dixon, Hull.
- " 16th and 17th.—RUGBY.—W. Bryant, Rugby.
- " 16th, 17th, and 18th.—BRISTOL.—Edwin J. Cooper, Mervyn Road, Bishopston, Bristol.
- " 16th, 17th, and 18th.—YORK.—J. Lazenby, 13, Feasegate, York.
- " 18th and 19th.—BOLTON.—J. Hicks, Markland Hill Lane, Heaton, Bolton.

THE YOUNG GARDENERS' DOMAIN.

NERINES—CULTURAL NOTES.

NERINES are the brightest of all our autumn-flowering bulbs, hence their culture is worth careful consideration. Their flowering season is almost over, and it is at this time that they should have generous treatment.

When the flowers are past they should be nipped off just below the ovary, leaving as much of the stalk as possible. Science gives a reason for this treatment. It tells us, and proves it too, that fruits, especially when forming seeds, use a large proportion of nutritive sap which has been specially prepared in the leaves. Hence if we remove the fruits before they enlarge we divert the sap into the bulb, where it can be stored for the exigency of a future flowering season. And as much nutriment had already got into the flower stem, that nutriment may be re-absorbed by the bulb if the stem is left intact. Besides, the flower stem contains a great amount of the green granules which are the main factors in the formation of nutritious matter from the raw elements in air, earth, and water.

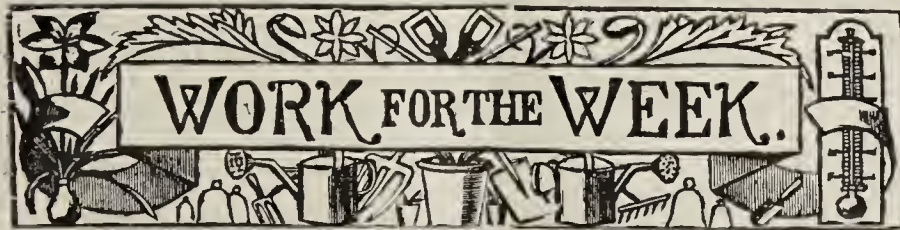
The growth of Nerines continues active after flowering, and this should be encouraged by keeping them in a brisk temperature—45° to 50° for minimum, and 80° to 85°, or even more, as a maximum with sun heat. Such a high temperature may be considered excessive by some; but, given sunny weather, and the plants near the glass in a shallow structure—a heated frame with a south aspect—that temperature may be easily reached, and I believe the plants would benefit accordingly. When sun heat is not available, as is often the case in late autumn and winter, artificial heat will have to be admitted to maintain a temperature a few degrees above the minimum given, as a uniform heat in sunless weather is better than a high day temperature maintained by artificial means. Then when we remember that the plants under consideration are natives of South Africa, and that the climate there becomes warmer for the same reason that the British climate becomes colder, that the sun shines more directly on the southern hemisphere than on the northern during our winter, so the climate of the former is then at its maximum.

They should also be put where they receive the most light, for the green chlorophyll in the stalks and leaves works and supplies matter for growth in proportion (to a limited point) to the amount of light it receives. As Nerines flower best when root-bound, they should be fed at this time with weak liquid manure or some chemical fertiliser, or even both.

Weak liquid manure may be applied about once a week if the weather be fair and conducive to growth. They must also be carefully tended for their water supply. If such culture is continued till the leaves show signs of exhaustion in March or April the bulbs will contain the necessary matter for producing a profusion of flowers. About this time water should be gradually withheld, and by the end of May they may be put outside in a sunny position with a light over them to ward off heavy rains. Slight showers will be beneficial rather than otherwise, but ordinary watering will not be required till about the beginning of August, when they may be given a well-lighted place indoors, top-dressed, and then watered.

Only those plants which have not been potted for two or three years, and are quite root-bound, should be repotted. Good fibrous loam, with the addition of leaf mould and sand to make a free open compost, will suit them. A little well-decayed cow manure may also be added, but that is not essential. Care should be taken with the roots that few may be injured.

Such are a few cultural hints of a general character which may be of use to those who know and contemplate growing with success this brilliant genus of bulbous plants.—X. L. C. R.



FRUIT FORCING.

Strawberries in Pots.—All plants for early forcing should be placed in frames, with a view to protect them from severe frost, heavy rains, and snow. Severe frost does the plants no good, but heavy rains and snow often cause the drainage to become much choked. In the frames, and plunged in ashes to the rims of the pots, the plants are quite safe, only take care not to let any become and remain dry at the roots, to use the lights only when heavy rains prevail, and then with them tilted at the back, and closed when snow or frost occurs, otherwise drawing off the lights.

If protection, as that of mats, is given in severe weather, the plants can be removed at any time as required for forcing. One of the worst and commonest practices is to pile the pots—plants outward—in a sort of half cone against a wall, packing them in sawdust, leaves, or soil, and the consequence is they are frozen through and the roots injured, whilst not a few suffer from drought, as they are practically unavailable for watering. A greater mistake is made in placing the plants on the border of a Peach house with open ventilators, where the currents of air being constant and excessive, provoke evaporation that simply waste the energies of the plants, and mostly destroy the roots at the sides of the pots. It is a far

better plan to stand the pots on a foundation of ashes in a sheltered situation and surround them with ashes level with the rim of the pots, affording a light covering of straw in severe weather. This answers very well for midseason and late forcing plants, they being removable at any time, and take no harm, only if frozen they must be thawed in a house not much above freezing point.

Where there is the convenience of a Strawberry house and fruit is required early, say in late February or early March, a number of plants may be introduced about the middle of this month, placing them on shelves near the glass, and only employing fire heat to exclude frost at night, and to maintain a temperature of 50° by day, at and above which ventilate freely. These plants should be the earliest matured, with well-formed crowns, and of the most approved early forcing varieties, such as *La Grosse Sucrée*, *Vicomtesse Héricart de Thury*, and *Royal Sovereign*. The old *Black Prince* can hardly be recommended on account of its liability to mildew, which often ruins the crop of this otherwise excellent variety for first early forcing. The mildew almost always appears with the flowers, and then gets a hold on the fruit. Early treatment with bisulphide of calcium is an effective preventive. It may be made as follows:—Slake 1 lb. of freshly burned lime, add half a pound flowers of sulphur, and enough water to form a paste, then add 1 gallon of water and boil fifteen minutes. It should be kept constantly stirred whilst it is burning, then allowed to settle, and when cool pour off the clear liquid into a stone bottle and keep well corked. For use add half a gill (one-eighth pint) to a 3-gallon waterpotful of water, and wet every part of the plants by spraying or dipping them in the solution just before the trusses start from the crown, and repeat before the flowers open, and again as soon as the fruit is set, but this must be washed off within a quarter of an hour, or it will "spot" the berries.

The mildew that infests Strawberries seems to be proof against dry sulphur—besides, flowers of sulphur dusted on Strawberries after they commence swelling is almost as bad as the disease. This fungus (*Oidium Balsami*) has a penchant for some varieties of Strawberries—namely, *Black Prince*, *Pioneer*, and *Sir Joseph Paxton*; as *La Grosse Sucrée*, *Vicomtesse Héricart de Thury*, and *Royal Sovereign* mostly are free from it, whilst it runs riot on *Black Prince* in the same house.

Where there is convenience it is a great aid to early forcing to afford the plants the benefit of a slight warmth at the roots by making up a bed of leaves about 2 feet in height, placing the plants in a frame upon it, packing the space between the pots with damp leaves. The bottom heat at the base of the pots should be 65°, the top being kept cool, 50° not being exceeded, and when mild draw off the lights. This will promote activity at the roots, and the crowns will push little or nothing, yet the plants after a month of this treatment—the bed then being cool, or the pots withdrawn gradually from the bed in preparation for removal to a vinery just being started—will go right away without having the leaves drawn or the trusses weakened by being placed direct from cool quarters in a house almost warm enough when started for the Strawberry when in flower. In fact, plants with well-developed crowns and abundant roots do not always succeed in a vinery because they are brought into flower too rapidly, but treated in the manner described excellent fruits of *La Grosse Sucrée* may be had in March from a vinery started at the new year. This variety we find swells better early than others, and though the fruits may be relatively few on a plant they are of even size, invariably colour well, and are of good flavour.

THE KITCHEN GARDEN.

Forcing Beans.—The crops produced by *Kidney Beans* during the dull days of early winter are light, but an occasional dish affords variety to the somewhat limited number of choice vegetables available. Shelves near the glass and the front walls of brick pits in old forcing houses and plant stoves are among the best positions for the plants. Those already well advanced in growth must be carefully watered. More seed should be sown in large pots about every three weeks or month, according to circumstances. Afford ample drainage, use a moderately rich loamy soil, and allow no space for top-dressings, as these do little or no good. A temperature of 60° to 65° by night, increasing from 5° to 10° on warm days suits Beans well.

Digging and Trenching Ground.—Whether vacant land shall be interfered with, beyond having a surface cleaning or not, ought to depend upon circumstances. If it is naturally finely divided and non-retentive of the more soluble fertilisers, then it is possible more harm than good would result from manuring and digging now. Then, again, some soils are drier and warmer if left in a comparatively firm state till near the time of cropping. Dug now they would absorb much of the moisture that falls, and be found in a cold saturated state next spring. As a rule clayey grounds are improved by digging or trenching in the autumn, especially if much strawy manure is turned in. Laid up roughly to the action of frosts and drying winds there is every likelihood of its becoming pulverised or workable to a good depth, and be made to produce crops of superior weight and quality the following season. On no account ought such soils to be wheeled or trampled on when in a wet state, an abuse of this rule causing clayey ground to become closer and more difficult to cultivate for a season or even longer. If a frost cannot be waited for, commence operations after a week of fine weather, and then do all the wheeling necessary over planks.

Bastard trenching, or the process of breaking up the ground two good spits deep without changing the position of surface and subsoil, is the most desirable and only safe form of trenching in all cases where the subsoil is either clayey, gravelly, or very poor. Not till it has been well prepared by occasional digging and manuring ought much subsoil to be brought to the surface, burying fertile top earth and bringing up sterile

badly working subsoil to the surface being a serious error. A light surfacing, or the loose soil left in a trench after the top spit has been thrown out, may with advantage be mixed with stale or manure-sick surface soil; but no more than that at one time.

The Manure Heap.—At this time of year stable manure accumulates in larger heaps, because not so much in demand, than at any other period, and a somewhat wasteful process is too often allowed to go on. All the time there is any moisture in it this fresh manure keeps violently hot; but excessive fermentation soon gets rid of the moisture, and with it much of the most valuable fertilising element in the manure—ammonia. A heap of rusty dry straw is of little value for manurial or any other purpose. If the strawy portions of the manure cannot be carted into a mixed farmyard, and there converted into good manure, shake out that portion of the straw which may be wanted for protective purposes, and form a great square, solid heap with the rest. Place a good layer of garden soil under it, and heavily cover with more of the same. This heavy weight of soil will check rapid fermentation and absorb what ammonia may be generated, while the soil underneath will be enriched with any juices that may be washed down by heavy rains. In February or March, when all is turned and mixed together, a valuable heap of manure will be available.

THE BEE-KEEPER.

PREPARING FOR SPRING.

THE late rains have benefited vegetation throughout the country, and the land is now in good condition for planting spring flowers. In previous notes mention was made of the different bulbs that might with advantage be planted at this season which would in due course benefit the bees, and would also be a source of pleasure to the lover of the garden. In many gardens preparations will have been made throughout the summer, either by cuttings, divisions, or from seed, for a supply of plants to fill the beds, or, it may be, the vacancies that are to be found in the mixed borders.

Fortunately for the bee-keeper the majority of spring flowers that are used for this purpose are of some benefit to the bees, either by producing honey or pollen. It does not matter so much for the former if the colonies were well supplied with stores the previous autumn, but plenty of pollen is most important, as without it the bees will make little headway. For this reason, if no other, pollen-producing plants should be planted in abundance. As with bulbs, so with the other plants, it is possible to make our gardens bright with flowers without them being planted specially for the bees. Spring flowers are increasing in favour, and it is interesting to observe in many gardens, where formerly the beds were allowed to remain bare throughout the winter, the advance that has been made in this direction, and instead of the beds being bare for six months they are now a mass of green throughout the winter, which is followed in early spring with a wealth of flowers of various colours.

One great advantage to be claimed for many of our showiest spring flowers is their inexpensiveness. Take for instance, Wallflowers; for a few coppers spent in seed several thousand plants may be obtained, and if large masses of these are planted in separate colours they will be appreciated by all, and will be a great attraction to the bees.

WHAT TO PLANT.

There is a wide field to select from, but our aim is only to mention a few of the commonest plants that are within the reach of all. We would again refer to Wallflowers, of which there are various shades of colour, but we prefer a good strain of the Covent Garden Red, it being bright in colour and very sweet scented. A good companion to the above is Golden Gem, which is of good habit and distinct. None of the yellow varieties is as sweet scented, through some cause or the other, as the red. In planting Wallflowers sufficient space should be allowed between the plants to allow them to develop. It is not advisable to save the seed of Wallflowers unless only one variety is grown in the district, as the bees will fertilise the flowers, and the seedlings obtained from them would be much mixed. Distinct colours always look the best.

Arabis alpina is a dwarf growing early spring flowering plant suitable for edgings or for the rockery. It is increased by dividing the old plants in the spring. The different varieties of *Myosotis* and *Primroses* are increased by division or from seed, and are too well known to need description. *Limnanthes Douglasi*, usually called the Bee Plant owing to the partiality of bees to it whilst in bloom. No list would be complete without this variety. It will increase at a rapid rate from seed, and grows about 9 inches in height.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

Herb & Wulle, Naples.—Seeds.

S. Mortimer, Rowledge, Farnham.—Dahlias.

W. Wells & Co Earlswood.—Chrysanthemums.



TO CORRESPONDENTS

All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Mixing Lime with Material for Mushroom Beds (G. F. O. B.).—The lime, especially quick or freshly burned, would tend to dry rather than render the material more "greasy," this being due to overheating, or not turning the manure soon enough and often enough to prevent too rapid fermentation and expulsion of the contained moisture. This practice we have found all that is necessary, though in the case of rather hot manure we have used a little common salt, about 3 ozs. per harrowload, or 7 lbs. per cartload, which insures slower heating and more even moisture, with a supply of chlorine, apt to be dissipated by excessive heat, and then not favourable to the growth of Mushrooms. When the material is poor a little Peruvian guano has a good effect, but it tends to liven up "dead" material by supplying ammonia steadily for gentle and long fermentation. About a good handful per harrowload, or 4 ozs., answers, 10 lbs. being used per cartload. When the material is rather strawy and dry the guano may be dissolved in water and used for sprinkling. Similar remarks apply to the salt when the manure has a tendency to become too dry.

Rust on Dandelion and Viola Leaves (W. B.).—The rust on the Dandelion, *Taraxacum (Leontodon) officinale*, is caused by the fungus named *Puccinia Hieraci*, Mart., syn. *P. variabilis*, Grev. It does not take on *Chrysanthemum sinense* vars. The rust on the Viola leaves is produced by the fungus known to botanists as *Puccinia violarum*, Lk., and in the uredo, or summer spore stage, as *Trichobasis (uredo) violarum*, B. It has no connection with either the rust of Dandelion in the form known as *Puccinia Hieraci*, or that of the *Chrysanthemum sinense* vars., and first figured in the *Journal of Horticulture* as *Trichobasis (uredo) Chrysanthemi*. This has not been found on the Dandelion, nor on any composite plant stated to act as host of *Puccinia Hieraci*. Your experience goes to prove that wild plants swarming with both forms of spores of *Puccinia Hieraci* have not had any effect on *Chrysanthemum sinense* vars. as regards producing rust. The *Chrysanthemums* in contact or close proximity are as free from *Chrysanthemum* leaf rust as they have been during the last thirty years; but where this pest has been introduced it has spread through collections that were absolutely free from it before.

Insect on Growths of Cox's Orange Pippin Apple Tree (J. W.).—The "very minute insect that resembles, if seen through a powerful glass, a beetle by its black glossy case," is the egg of the Apple fly, *Aphis mali*, in which the insect hibernates or passes the winter, and in the spring hatches and feeds on the expanding leaves, increasing with marvellous rapidity. The eggs are very crowded on the shoots, several hundreds on an inch length, and are just visible to the unaided eye, but clearly seen by an ordinary pocket lens. The insect is very prevalent in some seasons from the expanding of the buds up to July. It is not an uncommon cause of the blossom failing to develop, and the fruit not setting, or being defective or deformed, besides distorting and crippling the growths. The best procedure is to spray the trees as soon as leafless with a solution of caustic soda (98 per cent.) and commercial potash, half pound each to 6 gallons water, using at a temperature of 130° to 140°, or in the case of a few trees the solution may be applied with a brush, in neither case using it extravagantly, yet wetting every part, and always when the growths are quite dry. In the spring, as soon as the buds commence swelling and the leaves are showing, spray with petroleum emulsion, or the usual preparations of tobacco juice and soft soap, repeating occasionally after the leaves are developed, spraying or syringing upwards. The earlier the treatment begins the easier the aphides are killed. This must be done if the trees are to thrive and prove profitable.

Sulphide of Potassium (*G. W. G.*).—You have evidently not had time to read the articles and advice on the Chrysanthemum rust fungus, or you would have seen that 1 oz. to 3 gallons of water is the generally recognised strength for mature leafage; for tender foliage under glass it would be prudent to try half that strength, and note the effects. It is best mixed with a solution of softsoap. In reference to the use of this fungicide under glass it may be well to remember that it discolours white lead paint.

Vine Leaf Disease (*S. Surrey*).—The small reddish or brown raised spots on the leaf examined is the disease known as anthracnose, and caused by a fungus named *Sphaceloma ampelinum*. It attacks all the green parts of the plant, but we have not found it attack the fruit. It appears at first in the shape of small round brown spots depressed in the centre, and having a slightly raised dark border. The spots gradually enlarge, and pustules appear on the diseased surface, called pycnidia, and in these are produced masses of spores. The disease has been successfully combated on the Continent and in America by burning all the diseased leaves and prunings, afterwards dressing the rods with a solution of copperas (iron sulphate), 1 lb. to 2 gallons of water, applying carefully with a brush. This does not injure the rods if used whilst the Vines are quite dormant. In the case of Vines under glass the same conditions must be observed. First cleanse the house after pruning, and then dress the Vines. The old surface soil or mulching should be removed, and fresh compost supplied. The leaves must be collected just before they would fall, and burnt, as should the prunings. The wood of the sport for propagating should be well washed with the solution. In case the disease reappears, a powder composed of equal parts of sulphur and lime may be dusted on. One of the advertised fungicides, containing sulphate of copper, being handy, may be used instead of the lime and sulphur mixture. We have not found this treatment necessary after dressing with the sulphate of iron solution. In order to fortify the Vines we should apply a dressing of the following mixture:—Fish meal (white fish) five parts, sulphate of potash three parts, mixed, using 4 ozs. of the mixture per square yard, pointing in lightly. This should be applied as soon as the Vines are pruned and the border done up. In the spring, when the Vines are starting, give a good dressing of scot—a handful to the square yard; but when they are carrying heavy crops another dressing of the above mixture may be applied after thinning the bunches. The whole of the leaves sent subsequently to the one alluded to are affected with the fungus, and some of them with another kind, but we hope the treatment advised will extirpate both.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. *Dessert Pears cannot be named in a hard green state.* (*T. W. M.*).—1, Manks Codlin; 2, King of the Pippins; 3, resembles small fruit of Queen Caroline; 4, Hambleton Deux Ans; 5, Mère de Ménage, small; 6, resembles small fruit of Round Winter Nonesuch. (*J. W. S.*).—1, Beurré Superfin; 2, Flemish Beauty; 3, Comte de Lamy; 4, Flower of Kent; 5, Cox's Orange Pippin; 6, Hanwell Souring. (*J. H. A.*).—1, General Todtleben; 2, Beurré Diel. (*C. F.*).—1, Hollandbury; 2, Sturmer Pippin; 3, Minchull Crab; 4, Roundway Pippin. (*G. S.*).—1, New Hawthornden; 2, Evargil; 3, Roundway Magnum Bonum; 4, Small's Admirable; 5, Beauty of Hants; 6, Round Winter Nonesuch. (*S. S.*).—c, King of the Pippins; d, Springrove Codlin; g, Lamb Abbey Pearmain; m, Cox's Pomona; p, Bergamotte Bufo; r, Beurré Bosc. (*J. J. T. W.*)—Resembles Golden Reinette.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*L. M.*).—1, *Lælia anceps*; 2, *Cypripedium insigne*; 3, *Maxillaria picta*. (*A. W. P.*).—1, *Adiantum formosum*; 2, *Davallia canariensis*; 3, *Polypodium aureum*; 4, *Cattleya Bowringiana*. (*M. M.*).—1, *Daphne indica*; 2, *Ixora Fraseri*. (*B., Kenley*).—*Boussingaultia baselloides*.

COVENT GARDEN MARKET.—Nov. 9TH.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve ...	1	3 to 3 6	Lemons, case ...	30	0 to 60 0
Cobs ...	40	0 50 0	St. Michael's Pines, each	2 6	5 0
Grapes, lb. ...	0	10 1 6			

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0	0 to 0 0	Mustard and Cress, punnet	0	2 to 0 4
Beans, $\frac{1}{2}$ sieve ...	0	0 0 0	Onions, busbel ...	3	6 4 0
Beet, Red, doz. ...	1	0 0 0	Parsley, doz. bnchs. ...	2	0 3 0
Carrots, bunch ...	0	3 0 4	Parsnips, doz. ...	1	0 0 0
Cauliflowers, doz. ...	2	0 3 0	Potatoes, cwt. ...	2	0 4 0
Celery, bundle ...	1	0 0 0	Salsafy, bundle ...	1	0 0 0
Coleworts, doz. bnchs. ...	2	0 4 0	Scorzoneria, bundle ...	1	6 0 0
Cucumbers ...	0	4 0 8	Seakale, basket ...	1	6 1 0
Endive, doz. ...	1	3 1 6	Sballots, lb. ...	0	3 0 0
Herbs, bunch ...	0	3 0 0	Spinach, pad ...	0	0 0 0
Leeks, bunch ...	0	2 0 0	Sprouts, $\frac{1}{2}$ sieve ...	1	6 1 9
Lettuce, doz. ...	1	3 0 0	Tomatoes, lb. ...	0	4 0 9
Mushrooms, lb. ...	0	6 8	Turnips, bunch ...	0	3 0 4

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6	0 to 36 0	Ficus elastica, each ...	1	0 to 7 0
Aspidistra, doz. ...	18	0 36 0	Foliage plants, var., each	1	0 5 0
Aspidistra, specimen ...	5	0 10 6	Lilium Harris, doz. ...	12	0 18 0
Dracæna, var., doz. ...	12	0 30 0	Lycopodiums, doz. ...	3	0 4 0
Dracæna viridis, doz. ...	9	0 18 0	Marguerite Daisy, doz. ...	6	0 9 0
Erica various, doz. ...	9	0 24 0	Myrtles, doz. ...	6	0 9 0
Euonymus, var., doz. ...	6	0 18 0	Palms, in var., each ...	1	0 15 0
Evergreens, var., doz. ...	4	0 18 0	„ specimens ...	21	0 63 0
Ferns, var., doz. ...	4	0 18 0	Pelargoniums, scarlet, doz.	4	0 6 0
„ small, 100 ...	4	0 8 0	„ „	8	0 10 0

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch ...	2	0 to 3 0	Lily of the Valley, 12 sprays	0	9 to 1 6
Bouvardias, bunch ...	0	6 0 9	Marguerites, doz. bnchs.	2	0 3 0
Carnations, 12 blooms ...	1	0 2 0	Maidenhair Fern, doz.		
Chrysanthemums, per bch. specimen	0	6 1 0	bnchs. ...	4	0 8 0
„ blooms, per doz.	2	0 6 0	Mignonette, doz. bnchs. ...	1	6 3 0
Eucharis, doz. ...	3	0 4 0	Orchids, var., doz. blooms	1	6 9 0
Gardenias, doz. ...	1	0 2 0	Pelargoniums, doz. bnchs.	3	0 6 0
Geranium, scarlet, doz.			Roses (indoor), doz. ...	2	0 4 0
bnchs. ...	0	6 0 9	„ Red, doz. ...	2	0 0 0
Lapageria (white) ...	1	6 2 0	„ Tea, white, doz. ...	2	0 3 0
„ (red) ...	1	0 1 3	„ Yellow, doz. (Perles)	2	0 3 0
Lilium lancifolium, white	3	0 4 0	„ Safrano (English) doz.	1	0 2 0
„ pink	3	0 4 0	„ Pink, doz. ...	2	0 4 0
„ longiflorum, 12 blooms	6	0 8 0	Smilax, bunch ...	1	6 2 0
			Violets ...	0	9 2 6



ISLINGTON IN 1898.

It hardly can be that it is more than a year since we wrote last of the Dairy Show and its lessons. Time flies so quickly, and we seem to lose count of weeks and months. To think, too, that this show has been quietly at work since 1876 without a break! What thousands of people must have visited the exhibition! what hundreds have gone with a desire to learn all they could as to the process of butter-making, and as to the almost endless variety of cheeses turned out annually from British dairies!

The show is an object lesson on a large scale, and as carefully arranged as it is possible to be. Just read a list of the members of the Council, and say whether a better set of men could be chosen—men whose whole heart and soul are in their work; and their work really is not the perfect management of the Dairy Show (though that is a means to the end), but to raise British dairy-work head and shoulders above every other country in the world. Nowadays so much is said and written about big and little dairy farms that it behoves one to look carefully into the matter.

It is quite an open question whether to the ordinary farmer his dairy is a source of much profit. It is not and cannot be (1) where there is no good train service; (2) where the pastures are not suitable to dairy stock, and (3) where the dairy accommodation is scanty, and the owner above looking after the most trivial details. Indeed, there

are no trivial details; everything to the smallest minutiae is of the utmost importance.

The Dairy Association strives to create a spirit of emulation and a spirit of goodfellowship; it also strives to create a spirit of co-operation. In this last it does not quite succeed. There are so many units which ought to be incorporated into one body; but they are wilful units, and prefer a solitary existence.

Looking back during the last twenty years we mark with infinite satisfaction the wonderful improvement in butter manipulation. Good butter is the rule now, not the exception, and the difference between good and moderate even is very patent to every cultivated palate.

Cheese manufacture has not increased or improved at the same ratio, and we think we partly can tell the reason. Most grass will produce more or less butter fat, but it is only on certain pastures that cows will really give milk of that quality suitable for cheese making on a large scale—the cheese may be made—but it will not pass muster with anyone who really knows prime quality. Then there is another cause in operation. Whereas the art of butter making may soon be learned by a diligent pupil, that of cheese making is not so easily acquired. If once cheese is taken up it means early morning work, midday work, evening work; Sunday and week day alike during all the summer. When butter is once made up there is rest for the dairy maid, but the cheese maker does not know what rest is till the summer is over and the harvest past; then, again, butter does not give its maker “away,” so to speak, as cheese does.

From little understood causes cheese is apt to be found very “wanting,” say at the end of six months, just when it should be ready for the factor’s hands. It does not always “mature” as its maker could wish, and often keeps badly. In one of her earliest novels George Eliot makes it a sad cause of reproach in a farmer’s wife that her cheese never helped much to pay the rent.

Broadly speaking, cows appear to be divided into two classes—milk cows and butter cows. This is an old division, as old as the hills, for has not “our auld poll been counted a rare ‘un for butter?” in contradistinction to the Dutch lady, which was only celebrated for an overflowing pail of poor blue-white fluid.

Yes, indeed; the modern cow is subjected to very severe testing, and this testing ought to result in the elimination of cows that do not come up to the desired standard. A cow’s first business is to produce a calf yearly (heifer for choice), and then to fill the milk pail with a rich fluid for almost an indefinite period. We can hardly expect such a cow to do credit on the scales at the final scene, yet some breeds manage to make a fair record there too.

In the case of Jerseys we find that first prize won for milk was also first prize for butter, but second prize milk only got a certificate of merit for butter, the quality being poor, with a difference of something like sixteen points in quantity between it and the first prize winner.

With the Shorthorns we find neither first nor second prize milker get anything for butter save a certificate of merit. There is a remark on the great improvement of Jerseys, especially among those which have been bred in England. Naturally these must be hardier than the imported stock, and will be less difficult to keep in thriving condition. The champion milking prize went to a cow by a Guernsey bull out of a Shorthorn.

When Sir W. Broadbent, the great doctor, was speaking the other day on consumption as a preventable disease, he was strong on the point of the danger of milk from cows suspected of tuberculosis. He said wise doctors of old insisted on delicate children being fed on asses or goat’s milk. Why? Because those animals were perfectly free from any suspicion of such disease, hence the goat class at the Show, eh!

It must be a most trying ordeal to make butter before the assembled multitude which daily flock to the exhibition hall, and great credit should be given to those who so cleverly perform this work, as coolly as though they were in their own dairies at home. Personally we like butter not much ornamented, but it appears fashion rather runs into certain elaboration of detail.

“Punch” hit off this smart butter only a week or two back. Some of our readers will remember the toilet instrument mentioned as being used as a decorator. To those who did not see the picture, we will leave their imaginations to supply details.

We do not know what these new separators may be like; but he who invents one simple in working, and simpler still in cleaning, will confer a boon on mankind. A word of praise should be given to the judges, stewards, and other officials, who so willingly give both time and attention to make the whole thing such a grand success as it is. Possibly they have the reward of a satisfied conscience, that they have done their best to improve what should be one of the greatest agricultural industries of this dear old land of ours.

WORK ON THE HOME FARM.

We have now had rain with a vengeance; two days out of three the rain came down, and in no half-hearted manner, with the result that now the lea is at last ploughed the Wheat cannot be drilled till the land is drier.

There is still plenty of time for the Wheat to grow and do well if the larks could be kept off it, but these little pests always make bad work with late-sown corn. Not many larks breed near, but they arrive from somewhere in large flocks about the end of October.

We have got all the Potatoes safe, and are now busy with Mangold; they are hardly ripe, and are still growing. We have finished storing one piece, and are thinking of leaving the others to grow a little more; they are on dry land, where the risk from frost is not great. The crops are good, those taken up having produced about 30 tons per acre, which is very satisfactory for thin, sandy soil, unsuitable for this crop.

In connection with this plot, we have to record the result of a rough experiment. In the spring we had several loads of dry hen manure mixed with shed sweepings. This we applied for the Mangold at the rate of three loads per acre. The remainder of the plot was mucked from the covered yard, ten loads per acre, added to which were used 2 cwt. of mineral superphosphate and 3 cwt. of dissolved bones. The hen manure gave the best results, but the difference is not very marked, except as regards quality, which is much in favour of the hen manure. It is evident that guano would be a great boon to the farmer if he could get it, and that the use of a grass field as a fowl run must tend to greater fertility.

Young cattle must be kept up under cover now; the constant rain, combined with a falling temperature, must have a bad effect on them, and shelter they must have.

Frost is still absent, and a sharp night or two would do good in stopping the spread of fever, which is alarmingly prevalent. Several men are laid up in our village with symptoms suspiciously like those of typhoid fever.

OUR LETTER BOX.

Salting Chaffed Straw (*Constant Reader*).—From 56 to 84 lbs. of salt should be used per ton. If the straw is very dry 1 cwt. might not prove too much for the purpose.

A FORTUNE IN FOWLS.—In a local market last week, fowls per couple (live weight) 11½ lbs., were only making 4s. per couple—where does the profit come in?—H. F. [From the eggs they produced (if any) of course].

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
1898. October and November.		Barometer at 32°, and Sea Level	Hygrometer		Direc- tion of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Tempera- ture.		
			Dry.	Wet.			Max.	Min.	In Sun		On Grass
		inches	deg.	deg.		deg.	deg.	deg.	deg.		inches.
Sunday	.... 30	29.372	50.1	47.3	W.S.W.	54.0	56.2	47.6	81.3	43.9	0.261
Monday	.... 31	29.611	49.1	46.4	W.	52.2	56.5	46.9	88.9	41.1	—
Tuesday	.... 1	29.999	38.7	38.6	W.	49.9	53.9	36.4	76.9	30.9	—
Wednesday	.. 2	29.909	53.8	50.6	S.W.	48.7	60.0	40.0	61.1	35.4	0.273
Thursday	.. 3	29.681	59.1	57.2	S.W.	50.9	60.6	52.8	65.2	50.8	0.060
Friday	..... 4	29.951	44.3	41.6	S.W.	49.9	54.9	38.1	81.4	32.3	—
Saturday	.... 5	29.796	49.9	47.2	W.	49.2	56.8	44.9	89.8	39.9	—
		29.760	49.3	47.0		50.7	57.0	43.8	77.8	39.2	0.594

REMARKS.

30th.—Rain from 1.30 A.M. to 4 A.M.; almost cloudless from 7 A.M. to noon, then cloudy; showery from 3 P.M.; storm rain at 5 P.M., and almost cloudless night.

31st.—Bright sun almost throughout.

1st.—White frost early; almost cloudless day, but foggy in evening.

2nd.—Clear early; overcast from 8 A.M.; heavy rain from 11 A.M. to 2 P.M., and showery and damp after.

3rd.—Overcast and drizzly early, and rainy from 11 A.M. to 1 P.M.; sunny from 3.30 P.M., and clear cold night.

4th.—Brilliant till 1 P.M., cloudy at times after.

5th.—Fair early; bright sun all day, stormy-looking sunset, and brilliant night.

A variable week, with a good deal of sunshine and free from fog. Mean temperature 3° above the average.—G. J. SYMONS.

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HENRY IRVING, one of the earliest, very large flower, fine deep golden yellow, per 100 2/-, per doz. 3/-.
QUEEN OF SPAIN, very beautiful delicate soft yellow, with reflexing petals, per 100 17/6, per doz. 2/6.
BICOLOR HORSEFIELDI, petals pure white, trumpet golden, handsome, very early, per 100 17/6, per doz. 2/6.
INCOMPARABILIS SIR WATKIN, a very handsome large flower, petals sulphur, cup rich orange yellow, per 100 25/-, per doz. 3/6.
BARRI CONSPICUUS, broad yellow petals, cup conspicuously edged bright orange scarlet, a beauty and a general favourite, per 100 17/6, per doz. 2/9.
LEEDSII, M. M. DE GRAAF, broad white petals, white cup suffused orange, very beautiful, per doz. 8/-.
TRIANDRUS ALBUS ("Angel's Tears"), a gem on rockwork, pretty cream-coloured flowers, petals reflexed, per 100 8/6, per doz. 1/3.
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Journal of Horticulture.

THURSDAY, NOVEMBER 17, 1898.

THE JOURNAL OF HORTICULTURE can be obtained from the Office, 12, Mitre Court Chambers, Fleet St., London, post free for a Quarter, 3/9. Editorial communications must be addressed to 8, Rose Hill Rd., Wandsworth, S.W.

THE ECCENTRICITIES OF DISEASE.

THESE are numerous, but I desire to note one or two only. Why, for example, is it impossible to depend on the certain growth and flowering of the Hollyhock in some gardens, while in others it succeeds comparatively well? Was it a mistake to assume the first appearance of the disease to have been directly due to atmospheric influences which destroyed the plants nearly everywhere, and which has left its power to harm behind?

The Hollyhock, it must be remembered, is one of our oldest exotic flowers, cultivated for at least three centuries, but as seedlings only, and, so far as we know, free from disease. The appearance of doubled flowers did not alter the method of propagation till some time after it had become a florists' flower, a Mr. Baron of Saffron Walden having been the first person who seriously undertook its development about sixty years ago; while a little nearer our own time it was subject of discussion whether it would be best to exhibit it in single blooms or in spikes of three to five blooms on each! Messrs. Chater, and Paul also, while increasing the size, the doubleness, and generally bringing the blooms nearer the perfectness of many a gardeners' striving, accompanied this with increase in the size of the spikes to a wonderful extent.

Less than twenty years ago this superb plant could not be flowered or brought near the flowering stage, and, indeed, in the epidemic that struck it, it was all but lost as a first-rate varietal flower. Had intercrossing and high-class cultivation, as in a like manner a high state of civilisation among men, been its doom? Very likely. For the pestilence failed to reach single varieties that had been more or less left to themselves, and which are occasionally to be found, even now, in luxuriant health, without a taint of disease, bearing the most lovely cup-shaped, crimped-edged flowers.

It is sometimes declared that the Puccinia has lost its powers, but such is not the case. The fact that small seedlings grown out of

doors from the earliest stage of development are smitten is proof that the poison is still as virulent as ever, and the plant no more capable of resistance now than previously. If, however, we come to the conclusion that certain soils produce plants only slightly tainted, as appears to be the case, then we must also conclude the disease to be incapable of making good its attack on such plants, and therefore possible of neutralisation. Personally I have tried many methods, and always have had more or less of a failure to record. For next season I sowed seeds in September, the produce now being in a cold and thoroughly dry pit, and ready to move into 48-pots. Six weeks later more seeds were sown, and the seedlings from these are now in boxes in a slightly warm dry pit. In this way I hope to avoid the almost certain loss that follows summer sowing, as well as the weakness of plants raised in heat in January. The plants, I may add, are kept soil dry, though always growing, and this treatment in a modified form I hope to continue till they are planted out. A little phosphate will also be occasionally applied.

The Carnation is so much the victim of disease in various forms that I have selected it as another example. The Carnation, like the Hollyhock, has been cultivated in western Europe for how long no one knows. That it should have been difficult to manage in earlier times we are almost justified in accounting for by the injudicious treatment to which it was subjected by florists. Now it is grown more rationally, but the plant is as subject to certain diseases as ever.

Cold and dryness are the best preventives, while wet and warmth combined are deadly in their effect. Diseases are partly constitutional though largely varietal. For example, many crimson varieties suffer extremely from spot and black rust. Yellow varieties on the other hand are victimised by a yellowish rust, which is less harmful than the black, though it is more difficult to suppress, as it appears alike on plants cultivated in the open and under glass.

The Malmaisons are more erratic in the diseases to which they are subject than either of the above. In England the Malmaison disease is "Helminthium," in Scotland it is "Tylenchus." The former is no wise difficult to destroy in Scotland. The latter, on the other hand, it is almost impossible to remove. It destroys or renders plants in any number impotent of growth in root or stock. In England it is treated as a quantity not worth consideration, so also when it attacks border Carnations, which fortunately embrace a few sorts only, the greatest care is necessary to keep down losses.

As with the Hollyhock, so with these. Many seasonable methods have been attempted to procure immunity from disease, but all fail, and now it is whispered there is no use in attempting to grow out of doors all the year any but varieties of the hardiest constitution; Malmaisons never, but always under the protection of glass. Last winter was a particularly trying one to bedded Carnations, and I learned of more than one collection which was sadly wasted. The present winter is, to every appearance, likely to be equally destructive; and while there are doubtless methods of cultivation and of treatment that render the young plants less susceptible, there can at the same time be no doubt that there are many varieties otherwise of much value which cannot be depended upon to weather a damp winter without much loss. For the majority of gardeners the best method of treating these is to dispense with them altogether, and in other instances to keep a reserve stock in a Carnation pit for planting in spring. The former method is the more commendable, as while no flowering plant is more interesting than a healthy floriferous Carnation, on the other hand weakly objects are a blot.

I find my pen has been filling more paper than expected, so much so, that I dare not ask for more space than a few lines to remark on the Tomato. I have seen many cases of bad disease in these, and my first acquaintance with it dates a long way back—till before Tomatoes were grown at all largely in gardens. I at that time marked the influence that cold and damp had in developing disease in the fruits. I saw it repeated this summer on young plants growing in a damp house with little or no ventilation, the result being attenuated growth, with stems and foliage "going" in every part of the structure. I am also

acquainted with instances where the disease both in stems and fruit was directly the result of a too warm atmosphere, and manure in too great abundance for the plants to assimilate.

Only twice in a quarter of a century have I seen disease on plants that were treated with the consideration due to the species, and these simple cases no doubt arose from a slight deviation from correct methods. The Tomato requires very simple culture. A shallow soil, if healthy, suits it better than a deep root run. The manure it requires to perfect a heavy crop is best when of a phosphatic nature, and it ought always to be applied as a surface dressing. Till the stage of fruit-setting water ought to be applied with the utmost caution. If the border is 9 inches wide water will be required more frequently than in borders three or four times wider. I have, however, grown plants with only one slight watering when planted out till numbers of fruits have been set, without once watering the border.

During the swelling of the fruit water is required according to need, but long before the crop has been fully gathered its application should cease. A dry and airy atmosphere is also of moment. Two local effects of too much heat sometimes cause much uneasiness to growers. In the one case the foliage is curled together and browned, and in the other the side of the fruit becomes of a diseased appearance. This is in both cases simply scald, and when the cause is known the remedy in each case is very simple.—N. B.

HEDGEROWS.

THE ordinary hedgerow is a characteristic feature of English landscape. It is interesting to the student of botany and the naturalist, and to the young of all ages a never-failing source of curiosity and delight. From the time of the first Violet and the Rathe Primrose, that shelter on the banks beneath, to the Blackberry, Nut, and scarlet hep, there is always something to admire. I make no apology, therefore, for speaking of hedgerows, although they scarcely come within the gardener's scope. And yet I have seen, here and there, some charming effects produced by garden hedges. Here close by, in front of a house facing east, is a Sweetbriar hedge; it is about 40 yards long, 3 feet high, and 2 feet through. During June and July it was starred thickly over with the pretty, single, deep pink flowers—a deeper rose than *Rosa canina*—and now it glows with the cornelian of the hep.

Perhaps the prettiest of all hedgerow shrubs by the south coast is *Escallonia macrantha*, with its stiff, dark green glossy leaves, and trusses of trumpet-shaped crimson flowers. It was introduced, I believe, about seventy years ago by the late Mr. Dorrien Smith, lord proprietor of the Scilly Isles, and to see it in perfection one must go so far as St. Mary's or Treco. Miles of it are in use there as a shelter for the early Narcissi. Hedges 4 feet high are raised from cuttings in as many years. *Euonymus* is also grown, but it is being gradually dispensed with. It impoverishes the ground, and is not so manageable as *Escallonia*. *Veronica* also is used, and flowers delightfully.

Another hardy shrub used for a similar purpose is the Tamarisk. It is of rambling growth, however, and not nearly so effective. Perhaps of all hedgerow shrubs the Holly is handsomest and most effective as a garden fence. One thinks of Evelyn's garden at Deptford and his great Holly hedge, "a hundred and sixty foot in length, seven foot high, and five in diameter," a glorious and refreshing object, glittering with its armed and varnished leaves. And then one thinks of the "beast and hedgebreaker," Peter the Great, who was living in the house, and whose delight was to be driven through this hedge in a wheelbarrow. Perhaps, however, a handsomer hedge is that of the *Aucuba* when loaded with its clusters of crimson berries. If my memory serves me correctly the male *Aucuba* was only introduced about forty years ago. The late Mr. Chandler was, I believe, the first to make a ten-pound note of the berries. It may not be generally known that a spray of the male blossom suspended in a phial bottle with water among the branches is sufficient, with the aid of the bees, to fertilise many female plants.

Then, of course, there are many evergreen shrubs suitable for hedges—the common and Portugal Laurel, and the Bay, the Box, Cupressus, and Yew. The latter is an admirable foil for tall-growing plants, such as Hollyhocks, pillar Roses, and Delphiniums. Probably of all evergreen trees and shrubs the Yew and the Box are most amenable to the topiary art—a barbarous art, still in favour with old-fashioned folk who love a garden. But Bacon carries the joke too far when he speaks of his "stately arched hedge, and over every such arch a little turret with belly enough to receive a cage of birds, and over every

space between the arches some other little figure, with broad plates of round coloured glass for the sun to play on."

It may not have escaped the reader's memory that for some time after their introduction both the Larch and the Laurel, then known as the Bay Cherry, were still protected in winter; Parkinson, who wrote of gardening, 1629, tells us so. It is well known that many plants flourish best in sea air. Among these is the Fuchsia, which seems to be a favourite with Cornish miners. In rambling about Cornwall one frequently sees a dismantled cottage in whose wild disordered garden the Fuchsia still luxuriates. It overtops sometimes the garden wall and creeps along into the neighbouring hedgerows, its drooping tassels of scarlet and purple waving gently in every breeze. I was thinking, however, of ordinary wayside hedges. It is only in parts of the Sussex coast that one meets with them, but from Worthing to Arundel the country, a few miles inland, is delightfully wooded, and the roads have a wide margin of sward with bosky thickets of Gorse, Bramble, and wild Rose.

The hedgerow is one of the common things about which some people know next to nothing. I do not assume to know much, but "a little knowledge" of this kind is not a "dangerous thing," and what little comes to my share is not entirely "book knowledge." Here, then, is a rambling hedge. What of its material and structure? I take fifty paces along and retrace my steps to look at it more closely. More than half a century ago, perhaps, a double row of quick-growing White Thorn was planted here. But scarcely a tithe of these remain. The Hawthorn, hardy as it is, must perforce succumb in the struggle for the survival of the fittest. Then nine-tenths of the shrubs and wildings that usurp the hedge were planted by no hand of man. The planters were beast and bird, wind and storm.

Conspicuous among them are the Dog Rose and Bramble, bird-sown both of them. As to the first, the fieldfare or the missel thrush bit off the scarlet rind and dispersed the seeds. The last named, unless picked by the fingers of children, ripened, was frostbitten, and fell. Birds seem to set little store by Blackberries and haws, probably the latter serve as food for mice. It is the rind that the thrush tribe prefer, the smaller birds eat the seeds too. I found a linnet's nest by a busy highway. A field mouse had filled it with Rose haws—its winter store. It was so perhaps that those Dog Roses came on the opposite hedge.

But my 50 yards of hedge contain many more species. Among them is the beautiful wild Cherry—beautiful always from the time when its silver bells provided a feast for the bees till early summer, when its luscious fruit was so tempting, till chill October, when its crimson leaves were brightest of all on the woodlands. There are two plants of the Wayfaring Tree, its cherry-coloured cymes of berries are already conspicuous. Perhaps, however, the berries of the native Euonymus or Spindle Tree are most beautiful for their rosy magenta colours. Both the Brionys are here, and a quantity of wild Privet and hedge Laurel.

Then comes a Hazel from the nut that the nuthatch failed to pierce, or mayhap it was dropped from the silken paws of a squirrel. There are clusters of purple or blue-black Elderberries, too. What would the birds do without them, this thirsty weather, when all the ponds are dry? Travellers' Joy, the wild Clematis, of course is here, its feathery awns are quite a feature in autumn hedgerows; wind-sown, these. The Sloe or Blackthorn is a hardy native, spiny and aggressive. In a few years, if allowed to remain, it would creep on across the field and, with the help of other wildings, cover it with an impenetrable thicket.

The earliest mention of hedges seems to be in Domesday Book (Middlesex, p. 127); but doubtless they were used as boundary lines in Anglo-Saxon times. The material probably consisted of the seedlings of Blackthorn and Hawthorn, Crab, Hazel, Dogwood, and Holly transplanted from the woods. The earliest printed account is that of Sir John Fortescue before the end of the fourteenth century. Hawthorn hedges existed in the gardens of Windsor Castle in Henry V.'s time, but they were not generally in vogue until the close of the last century.—HERGA.

POTATO UP-TO-DATE.—Regarding the cropping properties of this variety, it may be interesting to remark that a few days ago I had the gratification of inspecting a crop of 11 acres belonging to Mr. George Thorneycroft, Ravenhurst Farm, Edgbaston, Birmingham, growing in a dark-coloured, friable, sandy, loamy soil, with the addition of horse and cow manure, Mr. Thorneycroft not being an advocate for artificial manures for Potatoes. I happened to be present when a considerable breadth of the crop was lying in the field ready for grading, and must confess that I never saw such a splendid array of Potatoes before. There was not the slightest trace of the disease in the crop, and the tubers were "as clear as bells," excepting with occasional symptoms of "rust." Moreover, they were of a most useful size, excepting a few tubers from 2 lbs. to 2½ lbs. in weight. They cook like "balls of flour," but require care, or are liable to go to "smash," as a cook recently remarked to me. Mr. Thorneycroft observed that he grew several varieties on another farm, about three miles distant, devoted to Potatoes alone, and that he found Imperator to be of excellent quality, and the tubers medium in size.—W. G.

APPLE ALLINGTON PIPPIN.

PROMINENT in the fine collection of dessert Apples exhibited at the last meeting of the Royal Horticultural Society by Messrs. G. Bunyard & Co., was an attractive pile of this valuable new dessert Apple, of which we figure a typical fruit. Some Apples are handsome to look at but indifferent to eat, others the reverse. Of Allington Pippin it can be said that it is as good in quality as it is pleasing in appearance.

Cox's Orange Pippin, all points considered, has long been without a rival among dessert Apples. It has one now in the variety under notice, which is destined, in all probability, to spread far and wide. It is not often that finer fruits of Cox's Orange Pippin are seen in competition than were staged at the recent Colchester Show. We have seen none finer, except the marvels of culture occasionally exhibited (as at the Crystal Palace) by Mr. T. F. Rivers; yet the Colchester Cox's were fairly out-distanced by Mr. Wallace's "Allingtons," the judges being Mr. S. T. Wright, the Chiswick Superintendent, with Mr. G. Wythes of Syon—experts, it will be conceded, who know good Apples when they see them.

Allington Pippin is evidently closely related to Cox's, from which it no doubt emanated; but is all the same distinct, both in colour,

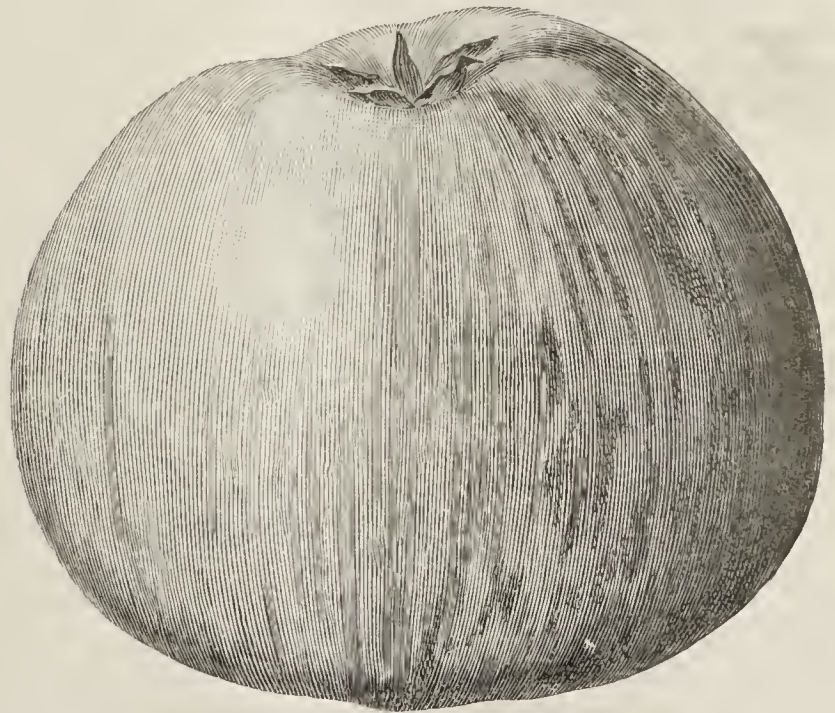


FIG. 64.—APPLE ALLINGTON PIPPIN.

quality, and growth of tree. The fruit of the new comer into commerce has a paler and more transparent appearance; is, as we have seen it, generally larger; the quality similar, but not the same, for while the Cox's flavour is unmistakeable, it is somewhat modified by a juicy sprightliness which we do not find in the famous old favourite, and we strongly suspect that much better champagne could be made from the fruit than a good deal which is manufactured for the market. In habit of growth the trees of Allington Pippin are sturdier than Cox's, with somewhat larger leaves, and produce blossom buds with equal freedom when pruners give them a chance, for it has to be said there are not a few men with knives in gardens who have yet to learn how to use them profitably.

A tree of Allington Pippin, planted at Chiswick early last year, has this season produced two dozen good fruits, and at the same time made satisfactory growth. There was clearly not much the matter with the pruning in that case, and a few hundreds of such trees would soon grow into money.

The fruit figured may be described as medium sized, nearly 3 inches wide and 2½ high; roundish, even, regular and smooth in outline; skin clear lemon on the shaded side, but flushed with red on the sun side, flaked and freckled with broken bars of crimson; eye small and generally open, with long pointed flattened segments, set in a shallow slightly puckered basin; stalk half an inch long, thin, set in a rather deep cavity, which is sometimes lined and rayed with russet; stamens median; tube funnel shaped; cells ovate, abaxile, slit; flesh greenish white, lighter than Cox's, tender, very juicy, crisp yet melting, sweet, with a delicate Cox's flavour, and a lively sub-acid accompaniment, which many palates approve.

Mr. Bunyard has never introduced a more promising Apple than this, and he no doubt feels fortunate by its possession. Allington Pippin, we suspect, will eventually find its way into all collections

where Apples are cherished, and we know of at least one gentleman who has planted and proved several trees, and means planting more, for affording a supply of fruit for market.

This Apple was first placed before the Fruit Committee on November 13th, 1894, by Messrs. W. & J. Brown, Stamford, under the name of "South Lincoln Beauty," and unanimously awarded a first-class certificate.



CATTLEYA AUREA.

THE flowers of this species come when others are scarce, and a number of plants keep up a display until the "labiatas" are in full swing. The colouring is gorgeous in some of the better forms, but it must be noted that there are a great many varieties being imported that are far behind the proper form of this, one of the finest and richest of all Cattleyas. A light position with more warmth than the majority of the genus like is best for this plant, and in every case where possible keep the growth dormant until spring. Should the buds start at the base make no attempt to stop or check them, but grow the plants on as rapidly as possible, so as to get the pseudo-bulb finished before the winter.

TRICHOSMA SUAVIS.

This is a pretty little cool house Orchid when well grown and flowered. The spikes appear at the top of the stems between the leaves, and are short, carrying a few pretty white flowers with a purple centre to the lip. The roots are fairly large, and thrive well in a compost consisting of one part of peat to three of moss, and plenty of rough lumps of charcoal. It must not be allowed to flower until it gets fairly strong, or the spikes will not be vigorous enough to show above the foliage. It is a native of the Khasia Hills, and was discovered by Mr. Gibson during his journey for the Duke of Devonshire in 1836.

NOTES ON PHALÆNOPSIS.

Although there is no need for such a decided difference in the growing and resting season for these lovely Orchids as there is with some other kinds, yet there is a distinct steadying of the growth in autumn that must be followed in our treatment of the plants. The gradual slowing up, so to speak, of the growth will be plain enough to those who are observant of their plants, and it is rather a singular thing that oftentimes the plants rest in the middle of making a leaf, and all through the winter will carry this half-formed leaf, which grows again with the increased light and heat in spring.

It is not necessary yet to reduce the moisture supply much, but the atmosphere may be kept a little drier with advantage to consolidate the growth already made. Excitement must now be avoided, and every ray of sun that can be allowed to reach the plant without actual injury to the foliage will be doing its part in this ripening process which is so necessary if the plants are to pass the winter in safety. Nothing is more annoying to a grower of these lovely Moth Orchids than to find the leaves dropping in spring just as the plants should be growing freely. To prevent this the water supply must be kept going fairly well in autumn, for a sudden check now will show itself in the manner indicated in spring.

It takes some experience to know exactly how to treat the plants in this important detail, for the weather, the size of the basket or pan the plants are growing in, and the condition of the plants themselves have each their bearing upon the subject. For instance, in hot dry weather, when plenty of air has to be allowed, a good deal more moisture is needed, both in the atmosphere and at the roots, than when opposite conditions prevail. Plants, again, with their roots tightly growing over each other in small receptacles have to be attended to much oftener than others in large baskets; and again, a healthy specimen will absorb twice the amount of moisture that a weak one will.

The vigorous-growing kinds, as represented by *P. amabilis* and *P. Schilleriana*, take a lot more water than the weaker growers, while plants in light modern structures dry up more readily than others in houses with small panes of glass. Thus it will be seen that no rules can be laid down, but every grower must treat his plants according to individual circumstances. I like to see the compost dry for an hour or two even in the height of summer, while at this time of year it is much safer to let the roots wait another day before watering, than to run the risk of damage by allowing more moisture than they can take up.—H. R. R.

INTERMEDIATE STOCKS.

IN reply to questions which arose from an article on these flowers (page 304, October 20th), we have been favoured with the following information:—

The origins of the strains of Intermediate Stocks that I sent to you are as follows:—The crimson one I received more than twenty-five years ago from Mr. Reeves of Acton, who then grew large quantities of them for Covent Garden Market. The Wallflower-leaved white I picked up locally, and the other white one, as well as the purple, came to me long ago as "Young's," who was a noted Scotch grower of them. The latter variety has been grown by a gardener, who habitually brought me a few seeds whenever he had any to spare; but since I sent you my last notes he has passed away.

Amongst the most effective flowering plants in the borders of the Oxford Botanic Gardens during the past season have been the groups of Intermediate Stocks. These strikingly compact neat-habited plants for a lengthened period were as profusely flowered as could be desired, reminding one how beautiful they are, and how admirably they serve to add to the brightness of borders or beds.

Many people imagine that Stock seed saved in Germany must necessarily be of a superior description, but I have never seen Intermediate Stocks raised from foreign seed that could favourably compare with those from carefully saved home-grown seeds, and it is probable that some of our best strains of them have degenerated on the Continent.

For early flowering, it is advisable to sow the seeds about the end of July, wintering the plants in cold frames, and these, if cut back rather hard after flowering in borders will, when a new growth has been made, form fine masses of flowers, surviving moderately severe winters, to blossom again more abundantly the following year.

Then, again, by sowing early in the spring in gentle heat, and preserving an unchecked gradual growth and hardening off, until "bedding out time" comes round, they fulfil as border plants as much, if not more, than what is expected of many of the plants requiring similar treatment, enriching the general autumn display of the borders, and, in sheltered situations, not unfrequently presenting some conspicuous flowers far on in the month of December.

These are the typical Intermediate stocks, and I have never observed any indication of them assuming the characteristics of the dwarf Queen stocks, although I have known the latter to be cultivated under the erroneous name of Intermediate Stocks, and this may help to explain what is regarded as their extreme diversity of character.—J. E. J.

ONIONISM.

THE PROPOSED GREAT CONTEST.

I AM exceedingly pleased to see that my few remarks on this peculiar phase, published a few weeks ago, have been the means of drawing forth a series of interesting notes and articles. Although a little disappointed that the hint of an Onion Hall has not led to the pouring in of colossal cheques, which I was so firmly persuaded would flow in, that I had already got my application for the post of manager written out, I am comforted by the knowledge that one or two excellent counter-suggestions have been made. One which secures my hearty approval is that of a North v. South contest. I do not in the least see why this sort of thing should be left to the sporting people. If the southern cricketers have their Graces, Richardsons, and Stoddarts, and the northern their Browns, Tunncliffes, and Hawkes, so have the southern Onionites their Fyfes, Bowermans, and Becketts, and the northern their Turnbulls, Humphreys, and Atkinsons. I am only sorry that the suggestion did not come a little sooner, so that the encounter could have been arranged at one of the great Chrysanthemum shows. I hope it may take place another season, if not this.

Possibly, as things are, the result of such a battle would be a decisive victory for the south. The astonishing work done by Mr. Fyfe this year indicates that he would be a worthy representative of the growers on the London side of the Trent if it were decided to let the issue lie between two individual champions. If, however, teams of six were chosen, and this perhaps would be better, the chances of the south would be stronger still, because there are several cultivators very little way behind the one named. However, if our northern friends took the matter up in earnest for another year, there is little doubt about their doing themselves justice. They are magnificent Leek growers, and if they devoted a little of their superfluous energy to Onions they would make a tough fight of it. The winners would, of course, be invested in solemn state with the Order of the Onion.

Allow me to add a note about minor Onionism. In a trial of everyday sorts for outdoor spring sowing I have made the useful discovery that the illustrious house of Veitch possesses a splendid stock of the Old Brown Globe. It has beaten nearly all the cracks (including Cranston's Excelsior, but not Ailsa Craig), and has proved far superior to such well tried stagers as James' Keeping, White Spanish, Bedfordshire Champion, Danvers' Yellow, Giant Zittau, and so on. Big, handsome, with a rich tawny colour, and as hard as nails, it strikes me as

representing an admirable type for the household. As perhaps you may know, Mr. Editor, a voice from the kitchen makes itself heard at times on the subject of Onionism, and the mere male, largely though he may loom at the shows, quakes when he hears it.—W. PEA.

[Yes, and if cooks were the judges in Onion contests, the "minor" bulbs would win, not in their view the "wasteful monstrosities."]

FLORAL DECORATIONS.

A FEW weeks since (page 279) Mr. F. Street gave a description of some very elaborate floral decorations, carried out at a great house in the county of Lincoln. There is not only the fact of the size and greatness of the house, but the association of great wealth conveyed in the treatment of the subject by your correspondent, so much so that envy becomes a prominent element when the description given by Mr. Street is taken seriously.

Mr. Street says, "How frequently we hear the assertion that tastes differ; or is it a matter of taste?" Most certainly floral or table decorations do demand a natural taste, but in many who are called upon to do the work this taste is not uniform or developed on any fixed principle. There is such a wide field covered by taste in the matter of decoration of the dinner table, that it would be futile for anyone to lay down hard and fast governing lines, because what would please in one instance would probably be otherwise in another. What determines the whole question is that of satisfaction to those for whom the decoration is done and to oneself. If a full measure of pleasure is derived from the treatment of the subject by the host and guests, it does not so much matter about the dignity of the taste of the decorator. I frequently find that a simple arrangement of foliage and flowers affords as much pleasure as an elaborate treatment with costly flowers and plants. Anyone accustomed to and having to carry out decorations can easily conceive what the effect would be in the examples described by Mr. Street, but very many have to do without such costly vessels for the arrangement of flowers and plants, and which naturally lend an air of dignity to the work of the decorator.

When decorations of the kind under notice are only required on special occasions there is not the same difficulty presented as that which occurs to the man who is expected to do the same kind of work every day. In both cases taste is a stern necessity, but I think the latter exercises a stronger demand than that which comes from special occasions, such as the one in Mr. Street's mind. To carry on the work of table decorations nightly for weeks and months together without intermission demands an inborn taste, and without it the labour would become painfully monotonous to the decorator and employer alike. With an aptitude for decorating it is really surprising what variation is possible, even on a table of moderate size, and it is needless to say that a table laid for over twenty requires very different treatment from one for half or less than that number. The quantity of plants and the size of individual flowers suitable for a large table need considerable modification when the table is so much smaller; but, as pointed out by Mr. Street, lightness and simplicity, with chasteness and elegance, are lessons that need to be learnt in the treatment of large or small tables.

I cannot say that I am wholly at one with Mr. Street in regard to what he describes as foreign foliage. The use of Lycopodium and Ferns for flowers to rest on are the outcome, he says, to say the least, of a depraved taste. If it shows bad taste to use Fern with flowers, then for what purpose are they grown? And further, what would Mr. Street advocate as an associate for cut spikes of Odontoglossums, Oncidiums, Calanthes, and other Orchids, and for the latter used in pots, flowering, as they do, without foliage? I must certainly admit a dullness of intelligence if I am expected to employ such flowers effectively without an accompaniment of some foreign foliage. In table tracery it would be impossible to employ such flowers, or even in small vases, if Fern fronds are inadmissible. I cannot help believing that even Mr. Street finds a difficulty in defining perfect taste or uniformity of treatment. In one paragraph he condemns the use of Fern fronds as showing bad taste; in another, *Adiantum gracillimum*, just a frond or two is admitted as a foil to Lily of the Valley and Persian Lilac. If Fern fronds are needful for such flowers as these, natural foliage of which can be furnished and spared so much more easily than occur with Orchids of most kinds, where is the line to be drawn between a depraved taste and that of a higher class? I am well aware that flowers which produce foliage in sufficient abundance look better and more natural without anything of a foreign nature arranged either in vases or on the table. *Euphorbia jacquiniæflora*, *Poinsettias*, *Chrysanthemums*, *Begonias*, and some other flowers mentioned in Mr. Street's article afford examples in which foreign foliage is altogether uncalled for.

There is undoubtedly, as Mr. Street puts it, an infinitude of conception arising from the power to observe, to feel, and to realise the sublime, beautiful, and picturesque in Nature and in Art, and the person is yet unborn that can produce in another such qualities by teaching. Unless they are by nature inborn, tastes which take such varied forms cannot be instilled by artificial means. Taste in floral matters becomes developed by age and opportunity, without the latter the talent remains to a great extent latent. Much could be written, more might be said, bearing on the subject, but it is a matter of such varying application, that few venture to give their own views, or extol the virtues of others, who, by age and experience have gained some mastery over such intricate studies.—W. STRUGNELL.

ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 8TH.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair); Rev. W. Wilks, Mr. Michael, Prof. C. A. Church, and Rev. G. Henslow, Hon. Sec.

Potatoes with Scab.—With reference to some diseased tubers received some time back, Prof. W. G. Smith reports as follows:—

Almost simultaneously with receipt of specimens from the Scientific Committee other specimens were received from "The Gardeners' Chronicle." Both sets of material showed a well marked form of "scab" involving the tip or growing end of every tuber. Freshly cut sections showed a mycelium inside the tubers, both in discoloured and normally coloured parts. The first result of cultivation was an abundant crop of a mucor (white mould), which soon passed into the zygospore resting stage. An abundant crop of bodies of a fungus nature were also present about this time in active growth. Later several other fungi appeared. The rotten parts showed the presence of bacteria, white mites, and nematode worms. *Phytophthora* was not met with in course of the examination.

The "scab" disease has been ascribed to (1) various fungi; (2) bacteria; (3) nematode worms; (4) mites; (5) an organism of a slime-fungus nature (*Pseudocommis*). The material examined was not suited to discriminate the actual cause of the disease, because four of the above agencies were present in company. The presence of a fungus mycelium in freshly exposed sections inclines me to give the precedence to some fungus. In the cases examined moss litter from a stable was used largely in one case; the other had also been manured with moss litter manure, but the source and quantity are not stated. This would seem to indicate that such manure offered good nourishment to the fungus. Comparing my results with other cases recorded, I am inclined to think that the fungus (another cause) came from the soil.

Investigations on Potato scab have been often made in the United States, Belgium, Germany, and France. No definite cause has as yet been fixed on, but experiments in preventive treatment have been fairly successful. Of the latter the following have been tried in the United States and in Europe:—

1, Corrosive sublimate—the favourite treatment in the United States. When seed tubers are treated before planting out with 1 part sublimate in 1000 of water for one to two hours good results generally follow, although some experiments on badly infested land were negative.

2, Sulphur—also an American favourite. The seed tubers are thoroughly dusted with flowers of sulphur before planting. One authority speaks highly of good results from 300 lbs. sulphur per acre applied in the open row, like artificial manures, from a drill distributor. The same writer is also in favour of a mixture of sulphur and kainit at the rate of 300 lbs. per acre.

3, Kainit, for application to land known to be infested. This seems to me a safe cure, and it is favourably reported on.

Akebia quinata.—Foliage and ripe fruit of this Berberidaceous climber were received from the Dowager Lady Bowman. They were grown in the open at Joldwynds, near Dorking. It is a native of Japan, and as a rule does not perfect its fruit in this climate.

Cyclamen europæum with Long Rhizomes.—Some plants were sent by Rev. W. Dod, showing how this plant can produce its tuber several inches below the surface, by means of a long rhizome penetrating vertically through the surface soil. At the base of the rhizome was the globular tuber. Perhaps this may have resulted from the prolonged drought, so that the tuber might be produced away from its influence.

Teasel Head Proliferous.—Dr. Masters exhibited a specimen in which the bracts of the summit became foliaceous. An examination of the tissues showed the presence of the fungus *Sclerotinia Libertiana*, both the *Sclerotia* and the *Botrytis* form being present. The probability is that the fungus has stimulated the bracts into their abnormal growth.

Apple Trees Cankered.—He also exhibited branches of Apples swollen by Mistletoe, but within cracks of the bark there was present the fungus *Nectria ditissima*. He remarked that through loosening the soil about the roots by forking it over, and by applying manure, the canker had disappeared from the trees so treated.

Lavender with Dimorphic Leaves.—Dr. Masters called attention to sprays of Lavender on which the majority of the leaves were small, grey with stellate hairs, and with inrolled margins, these characters being acquired by many plants frequenting arid and hot regions. Some of the leaves, however, were much larger, dark green and flat, such being characteristic of plants in a moister climate. The different appearance of the latter is caused by there being much fewer hairs, and these, instead of having long and very slender branching rays, have only extremely short ones, with scarcely any branches; consequently they scarcely overlap each other and so reveal the green chlorophyll below and between them. With regard to the stomata, they are about equally and very sparingly distributed. They occur on both sides of the leaves.

Potatoes Blackening when Boiled.—Mr. Rd. Morse forwarded raw and cooked Potatoes to show the difference in those cooked as grown in a field and in the garden. The latter were much blackened, but not the former. They were the variety Windsor Castle. The soil of the field sent was very red with the presence of iron, consequently there was very little doubt that the tannic acid, being liberated by boiling, united with some salt of iron imbibed, producing tannate of iron, the usual ingredients of ink. Beyond being somewhat unsightly, nothing of a deleterious character was present. Mr. Michael observed that it was of common occurrence in the peaty soils of Skye, and even preferred by the local inhabitants.

Begonia Monstrous.—Dr. Masters showed a male flower, in which the central axis was prolonged into a small funnel-shaped structure on a slender pedicle. Similar structures are not uncommon, as foliar excrescences on the ribs of Cabbage leaves, and the ovules of *Mignonette* have been transformed into similar funnels or cups, as described by the late Rev. Prof. J. S. Henslow.

Structure of Seeds of Indigo Plant.—Prof. Church alluded to a curious discovery he had made in investigating the seeds of some wild species of *Indigofera*, as *linifolia*, *cordifolia*, and others. He found that sections of the embryos showed a marbled surface, having brownish patches, due to the colouring matter erythrophyll. On boiling crushed seeds to test for starch none was found, 33 per cent being albuminoid matters; hence these are the most nitrogenous of all leguminous seeds known. On the solution being left the true indigo blue separates and becomes insoluble. Thus there are two quite independent colouring matters in the same seed. The solution being red, the blue formed a ring round the porcelain vessel containing it.



R. HOOPER PEARSON.

THE number of Japanese Chrysanthemums is nothing short of immense, and a goodly proportion of them are of various shades of yellow. Notwithstanding this, when a new variety is introduced it is immediately subjected to the ordeal of severe criticism, and if it withstand the test leaps at once into popularity. Amongst the best of this season's novelties we must place R. Hooper Pearson, of which a photographic reproduction is given on page 381. It is a yellow Japanese of superb form, and is in colour much deeper and richer than the popular *Modesto*. The florets are broad and recurve at the tips, after the style of *Mutual Friend*, with which, save for colour, it is almost identical. It is a seedling raised by Mr. H. J. Jones, Ryecroft Nursery, Lewisham, who anticipates that it will occupy a similar place amongst Japanese that C. H. Curtis does in the incurved section. A first-class certificate has been accorded to it by the National Chrysanthemum Society.

NATIONAL CHRYSANTHEMUM SOCIETY.

THE Floral Committee held a meeting at the Royal Aquarium, Westminster, on Monday last, Mr. T. Bevan occupying the chair, and being supported by a full attendance of members. Visitors were also numerous, and the extent and quality of the exhibits were really exceptionally fine. The principal displays came from Messrs. Cannell and Sons, W. Wells, H. J. Jones, R. Owen, W. Seward, and one or two more. The Committee made the following awards of first-class certificates—viz.,

C. S. Bates.—A very full double flower of the incurved section, large in size and regular in form. Colour pure golden ochre yellow. From Mr. R. Owen.

Le Chalonais.—A very nice form of Japanese Anemone; it has a fine disc and flat, neatly arranged guard florets. The colour is golden yellow, shaded cinnamon. Exhibited by Mr. H. J. Jones.

John Pockett.—A noble Japanese incurved of remarkable size, with big, broad, incurving florets lined with reddish crimson, and the reverse deep golden bronze. This came from Mr. W. Wells.

Madame Gabrielle Debrie.—Another very large Japanese incurved, with broad substantial grooved florets; very deep and globular in build; colour pale pink. From Messrs. H. Cannell & Sons.

Mrs. W. Howe.—A big, deeply built incurved of the old type, with stiff, grooved, regularly arranged florets. Colour a pure deep golden ochre-yellow or chrome. Shown by Mr. W. Howe.

H. J. Jones.—This is probably one of the most brilliant Japanese ever raised. It has long, loose florets of medium width. The colour is without equal, being of a dazzling velvety crimson reverse and centre bright gold. From Mr. W. Seward.

Hanwell Glory.—Incurved; a big, solid, massive-looking flower of the most regularly perfect build. It has a multitude of narrow grooved florets, forming a very deep, compact flower of great merit. Colour a deep rich shade of golden bronze. Another of Mr. Seward's.

Madeleine Davis.—A very fine form of true Japanese with long, twisted, intermingling florets most effectively arranged. The blooms are very large. Colour pale lilac mauve, rather pinkish towards the centre. From Mr. W. H. Lees.

Miss Annie Hills.—One of the big, broad-petalled, incurved varieties, very deep in build and large in size; a close, compact, massive flower. Colour white, slightly tinted flesh or blush. Staged by Mr. H. Weeks.

Very noteworthy also were Mrs. Grogan, a charming bright pink Japanese, of which the Committee wished to see a plant, it being shown as a decorative variety; *Ialene*, a noble pink incurved; *Pearl Palace*, pale flesh-coloured incurved, which was also asked for again. Mrs. W. C. Egan is another fine incurved, bright rosy pink. Owen's Memorial, a rich crimson and bronze, and Mr. T. Carrington, purple,

were also asked to be submitted again. The Committee awarded a commendation to Mrs. Alfred Kimber, a fine yellow sport from Mrs. Dr. Ward. Mr. Witty of Nunhead sent some very curious and fantastic novelties, which were quite out of the ordinary.

CHRYSANTHEMUM CURIOSITIES.

AT the last Floral meeting of the N.C.S. Mr. Witty exhibited several Chrysanthemums from Japan that certainly well deserved the name of curiosities. They were quite original in form, and reminded me very much of some of the strange things in the Chrysanthemum that seem to delight the Japanese florist. In fact, although they were flowers, they were as much unlike flowers as it was possible for them to be. One he called, *What Oh*. This consisted of a ragged bundle of dishevelled tubular florets, very curly at the tips, hanging loosely and limply down as if the blooms had been struck by lightning, the only variety I know of at all similar being *Medusa*, an importation into America from Japan, but not perhaps known here. The colour of *What Oh* is a kind of pale straw yellow, and the tips of the florets look too heavy for the flower, being bigger and curiously crooked. Another variety Mr. Witty calls *Golden Shower*. There is also a sort of struck-by-lightning look about this one, but the florets are as fine, and similar in appearance, to a tangled bunch of silken thread, and the colour gold and bronze.

These are certainly great novelties, but of course of no value for the show board; a few plants of such varieties in a group in the conservatory or in the London parks would evoke many exclamations of surprise from those who think that this wonderful Eastern flower has any limits to its capacity for form.—P.

JAPANESE AND INCURVED.

I FIND from an extract from Mr. W. J. Godfrey's catalogue of two years since, which that gentleman has sent me from Exmouth, that he then strongly criticised the arbitrary division of Japs and incurved, I recently referred to. Thus there is nothing new under the sun, not even folly, for it is folly and that alone, to keep up lines of demarcation that no one can defend. When the Japanese were originally introduced, the incurveds and the reflexed were divisions so clearly defined that no one could stumble over them. Now the reflexed as a section have practically disappeared, and the incurveds are so far merged into the Japanese that they are gradually being swallowed up. Not only are growers tired of them because in the old or smaller flowered varieties they get so poor a return for the time and trouble expended upon them, and of the larger ones so Japanese in character, they are bewildered to understand where the incurved ends and the Japanese begins.

Would it not be much more sensible now, in face of these changes, to divide all large flowers into two classes or sections—incurved and not incurved? Never mind about lists or divisions of sorts to name. Any grower, even if ever so obtuse, can tell which of his blooms have incurved petals and which have not. The awards to be made to the incurved, excellence of the variety as shown, and not by certain requirements of incurved form, now obsolete. The non-incurved flowers would also be judged by their relative excellence as to ordinary character, and any having incurved form would not be disqualified, but would lose points in a competition.—D.

TOO-MUCH-ALIKE FLOWERS.

THE recent disqualification of a very fine stand of thirty-six incurved Chrysanthemum blooms at the Royal Aquarium was all the more remarkable because the exhibitor, one of our finest growers, was a member of the N.C.S. Classification Committee, and therefore somewhat responsible for a classification which certainly, in the case in question, seemed absurd, the flowers being *Princess of Wales* (pink, and having long pointed petals), and Mrs. Heale (pure white, the petals being rather shorter and more rounded). To class such blooms as too much alike savours of absurdity. A day later I found in another show a first-rate grower had in his stand of incurved C. H. Curtis and Major Bonnaffon. I remarked to him that N.C.S. rules evidently were not respected there; and he said they were, so far as these flowers were concerned, absurd, as the plants as well as flowers were quite distinct. If this be so, in how many more cases may not there be distinctness?

But then the matter is a serious one for the Chrysanthemum trade, as it is too evident that all these so-called as too-much-alike varieties have got into commerce through that body; and if alike, on what principle of honour or integrity have they been sold as distinct? The recently disqualified exhibitor, whose blooms throughout were so fine that they would have won him the first prize in the class, stated that he had been misled by, I presume, misreading certain conditions or rules on page 17 of the schedule, as, for instance, that passage where it runs "Therefore in the cases of varieties that at certain stages of development closely resemble each other, the blooms exhibited must

in classes for distinct varieties, be *sufficiently diverse*, so as to be readily distinguished by the judges." A blind man almost could have distinguished in the above case.—A. D.

NEW INCURVED CHRYSANTHEMUMS.

ANYTHING specially fine and good in this type is always welcome to the growers, and during the present season signs have not been wanting of some steps towards improvement with the old incurved section. Many of the new varieties seen of late appear to advantage—firstly, by reason of the fine depth and closely incurving form that several of them display; and secondly, by the great purity of tone in the colours of most of those hereunder mentioned. The selection that follows is the result of attendances at the floral meetings and visits to the various nurseries, and may be considered to include the best of the recent novelties.

Miss Godsmah, very fine, deeply built blooms, solid, compact, but rather coarse, inside of florets crimson, reverse golden bronze. Ada Owen, a very pretty, regular-looking incurved, of good size, having stiff florets, which are close and compact, and rather broad; colour pure white. Major Matthew, a rather pretty little flower, with narrow florets, of good depth, globular in form; colour pink. Yvonne Desblanc, very large, pure white. Topaze Orientale, very deep in build, and has numerous closely-incurving florets; colour pure pale yellow. Emile Nonin, rather flatter in build than some, but of value on account of its colour, which is a deep golden chestnut. T. Lockie is something in the form of Mrs. R. C. Kingston, very close in build, and has regular narrow florets, white tinted yellow, outer florets shaded pink. John Miles is another whose build leaves little or nothing to be desired; colour golden orange bronze. Thomas Singleton is a very closely incurving compactly built flower, pure white, but the outer florets tinted. C. S. Bates is a deeply built regular flower, large in size, and of a pure golden chrome yellow. There is also Pearl Palace, a rather promising variety, colour pinkish lilac; and another, called Mrs. W. C. Egan, very deep and solid; colour pink.—C. H. P.

CHRYSANTHEMUMS AT THE AQUARIUM.

BLOOMS of excellent form, rich colours, extra size and depth, were conspicuous in the majority of collections seen at the National Chrysanthemum Society's great autumn exhibition held on November 8th, 9th, and 10th at Westminster Aquarium. The interest manifested in this magnificent gathering of all that is best and worthy of inspection continues to be maintained by every section of growers and admirers of the autumn queen. Competition is keen, not only among the growers of cut blooms for exhibition in the various classes, but also among the trade growers, who strive to present imposing and tasteful displays of plants and blooms which will whet the appetite of the public, creating a demand which will further extend the cultivation.

It is at this exhibition that numbers of the best and newest varieties are shown, hence a splendid opportunity is presented of seeing them, and becoming acquainted with their colour, shape, size, and any special feature.

In every way, then, these superb displays under the auspices of the N.C.S. are of educational value. Especially is this so of the November exhibition, at which time the midseason varieties present their fullest development. Note can be taken also of many varieties which carry themselves well in form, freshness, and colour after reaching maturity earlier, also of those which have not attained full perfection, and may prove valuable late varieties.

Notes of a few new and choice varieties which occupied prominent positions at the recent Aquarium Show may prove useful to some readers, and I therefore append them.

Captain Bellamy is an excellent deep, clear canary yellow Japanese, with good, broad, deep florets, incurving centre. Prince Charles of Denmark.—Fine, full, deep yellow; Japanese. Golden Harvest.—Pale yellow Japanese, with broad incurving petals. Miss G. Vanderbilt.—Splendid sulphur white Japanese, with narrow short florets. Sir H. Kitchener.—Japanese; splendid yellow and bronze, drooping and small incurved florets; a finely built flower. There is another new variety named The Sirdar, a good pink Japanese. Mrs. Winkley Smith is a very clear yellow Japanese, with medium-sized petals. Britannia is a Japanese with blush incurving florets. William Bardney.—Japanese; crimson, with silvery grey reverse; a very large flower, long incurving petals.

Charles Page.—Japanese, orange or deep yellow, broad florets, whirled and incurved at the tips; a very finely formed flower. Mons. Ed. André.—Sulphur reverse, pale bronze Japanese, broad florets, curving and incurving. Master James Epps.—Deep yellow Japanese, broad florets, incurving, recurving, and drooping petals. Lord Cromer is a deep crimson, yellow reverse, shapely drooping florets; reflexed Japanese. Marie Calvat.—Of a flesh and pink colour, faintly striped; it is a large, superb Japanese variety. Mrs. J. W. Barks is a bronze and yellow sport from Edith Tabor. Miss Randerson.—Pure white Japanese, broad petals, short in the centre, drooping nicely; a bold massive flower. Mrs. White Popham.—Another white, edged or lined

with pink or carmine. Glory of Maidenhead.—Deep chestnut, yellow reverse; Japanese. Madame Louise Prossitt.—White, closely packed Japanese bloom with incurving petals; and Gold Standard is a deep yellow Japanese having erect petals.—E. D. S.

CHRYSANTHEMUMS AT WOKING.

MR. H. SHOESMITH, of the Claremont Nursery, Woking, is well known as an old and experienced grower for exhibition, and has on many occasions given proof of his ability. Dealing first with the incurved varieties, we found them well represented, and coming on in a most promising way, the best of them needing only to be mentioned by name, for they comprise C. H. Curtis, large and fine; Mrs. Coleman, Mrs. Heale, Miss Haggas, Miss Dorothy Forster, Lord Alcester, The Queens and Empress, Princess of Wales, Lucy Kendall, and others of equal repute. Japanese are well done, and include all the standard novelties of recent introduction.

Taking Calvat's seedlings as the starting point we find Mme. Robert de Massy, a Japanese, with a fine velvety purple amaranth shade and a silvery reverse; N.C.S. Jubilee, Japanese incurved, pretty silvery pink; Secrétaire Rivoire, a Japanese, with long drooping florets, colour pale canary yellow shaded bronze; Madame Bertet, pure white, tinted flesh colour, are all fairly good. Among others from the same source of special merit may be counted monster blooms of such varieties as Dr. Liebert, globular and deep, colour bright rosy mauve with silvery reverse; Australian Gold; Madame Carnot; the curious green Madame Ed. Roger; Le Grand Dragon, a fine new golden yellow of this season; Madame Couvat de Terrail, a big spreading Japanese, of a pale pink passing to white; Madame Madeleine Expulsion, a new white; Melusine, Tatiana, Antoinette, white; Sita, white, streaked purple; M. Chenon de Léché, Werther, and one or two more.

John Pockett is a good sized colonial seedling, a Japanese incurved with long pointed florets, reverse golden bronze; and among others from the same part of the world the solid, massive Australie, Oceana, and Pride of Madford, all well known to growers, are certainly of considerable merit. The selection does not, however, end with these, for we noticed a very pretty bright crimson sport from Pride of Madford called Mabel Kerslake; Mrs. Ernest Carter, big and fine, with long drooping florets, colour clear deep primrose; Mr. T. Carrington, deep rosy amaranth; and The Convention, golden bronze. From the same source come Miss Mary Underhay, a grand new yellow; Miss Nellie Pockett, a fine white; Master H. Tucker, deep bright crimson and gold; Chatsworth, pink; and last, but not least, Purple Emperor, which for colour is simply superb, it being a fine deep velvety plum coloured purple with a silvery reverse. Some well-known standard sorts are also found in good examples of Mrs. C. Harman Payne, very large and bright in colour, and its two sports, M. Louis Rémy and Mrs. G. W. Palmer. Madame Rozain is a grand incurving pink Japanese, not a modern one, but still of some value. There are some good blooms of Vivian Morel, Etoile de Lyon, Phoebus, and others from various Continental raisers which will show the reader the class of bloom he may expect to see at the Claremont Nursery.

SPECULATIONS.

MR. W. PEA responded to my hint with an interesting contribution on page 359. He was not, however, likely to see the point of my desire, which was deferred, perhaps, to a more opportune moment, when the claims of the Chrysanthemum carnival were ebbing. Seeing in this connection the question of the future installation of flower shows in more appropriate environment than they actually enjoy in London, the subject seems to deserve some space, and should be ventilated, in favour of a more central London site than can be claimed for the Crystal Palace, however appropriate this building is from all other points of view. The very reference to the meeting places of the Royal Horticultural Society and the National Chrysanthemum Society being at no great distance from each other, and constituting by their proximity an advantage to Fellows of both Societies, logically points to joint action, so as to place them under one central roof. There is no gainsaying the iron should be struck while it is hot, and before the latter Society closes elsewhere a lengthy contract.

The flow of the tide is required to launch the ship, and it is surely not too early to remember the centennial of the Royal Horticultural Society occurring within six years' time when such a central floral hall should be ready adequately to commemorate that important event. It will take a year or two to unite all the powers for the realisation of the project, and as much time or more to determine upon the site and to open the edifice, and the matter should be seen to in time, as too many are the instances of "missing the point" through lethargy, with the resulting incompleteness.

Sites will become scarcely more plentiful or cheaper as years pass by, unless, indeed, a slice of the near park be granted and appropriated for the erection of a building that might serve the purposes of all the flower shows and meetings, and be left to the people's use free, and with other attractions on all other days of the year. Surely the tide is rising financially for the Royal Horticultural Society, and the psychological moment should not be sought for when ebb will follow, but should be courted at the present time.—H. H. R., Forest Hill.



EVENTS OF THE WEEK.—On Tuesday, the 22nd inst., the Committees of the Royal Horticultural Society are to meet, as announced in a separate paragraph. Though Chrysanthemum shows are decreasing materially there are still a few to be held in various parts of the country.

— **WEATHER IN LONDON.**—Instead of having rain in the second half of last week we had fog, it being particularly thick on the mornings of Thursday, Friday, and Saturday. As usual it was very local. On the evening of the latter day a little rain fell, but Sunday was brilliantly fine, and for the middle of November very mild. Monday and Tuesday were clear and cloudy at intervals, a little rain falling on the evening of the latter day. Wednesday opened dull and close.

— **ROYAL HORTICULTURAL SOCIETY.**—The next Fruit and Floral meeting of the Royal Horticultural Society will be held on Tuesday, November 22nd, in the Drill Hall, James Street, Westminster, 1 to 4 P.M. At three o'clock a lecture will be given by Mr. A. D. Hall on "Artificial Garden Manures."

— **R.H.S. NOTIFICATIONS FOR 1899.**—The £10 10s. Sherwood cup will in 1899 be given for vegetables shown by amateurs or gentlemen's gardeners on June 13th and September 26th. The points obtained by each exhibitor on each day will be added together for the result. June 27th will be the Rose Show at the Drill Hall. On July 11th there will be an International Conference held at Chiswick on hybridisation and cross-breeding in plants, together with an exhibition of hybrid and cross-bred plants, with their parents (when possible) for comparison.

— **BEETS ON DRY SOIL.**—In a trial of a dozen or so of assumed diverse varieties of Beets I conducted this summer, on which the great drought told with marked effect, I found on lifting the roots a day or two since that those having comparatively robust tops gave the finest, whilst those more refined varieties so commonly grown in gardens gave very pretty and clean but smallish roots. Of the strong growers referred to Sutton's Black and Dobbie's Purple and Red were the best. These should make capital varieties for general culture on poor ground, but would be too gross for rich garden soil. With such selections as Dell's Crimson, Nutting's Dwarf, Pineapple, Ashgrove, and some others both descriptions of soil may easily be accommodated.—A. KINGSTON.

— **NYMPHÆAS AND BEES.**—I have read the article on this subject by Mr. Thos. Pockett, Victoria, Australia, on page 335 of the Journal. I cannot, however, afford any information respecting the varieties that are grown here in our ornamental water, never having taken any note during the flowering season. I did, however, take frequent note of our *N. stellata* in the warm tank, not as it pertains to bees, but to a rather uncommon form of fly, which was evidently very fond of the nectar. This fly would find its way over the stamens of each flower, but rarely, if ever, could it again escape, owing to the yielding of the stamens towards the centre. Over and over again would one of these insects attempt to get free, but in every case under observation it failed. The day afterwards these flies would be in a semi-conscious state, dying soon afterwards, each flower being a veritable death trap. Another season I hope to watch with interest the actions of the bees upon the other varieties, and to report in due course.—JAS. HUDSON, *Gunnersbury House Gardens.*

— **HORTICULTURAL CLUB.**—The monthly dinner and conversation took place at the rooms of the Club, Hotel Windsor, Victoria Street, Westminster, on Tuesday evening, November 8th. The chair was occupied by Sir John D. T. Ilewelyn, Bt., M.P., Chairman of the Club. There was a large attendance of members, including the Rev. W. Wilks, the Rev. Joseph H. Pemberton, Messrs. H. J. Veitch (Vice-Chairman of the Club), Edw. Mawley, C. E. Pearson, James H. Veitch, W. Bassett, M. J. Garcia, T. W. Girdlestone, G. Bunyard, W. F. Cooling, R. Goffon Salmond, Selfe Leonard, Harry Turner, and the Secretary. The discussion was opened by Mr. T. W. Girdlestone on the Dahlia as a garden flower. He reviewed the various sections, and showed how much the Cactus Dahlia had increased in popularity, and that we might look forward to still further improvements in it. In the discussion which followed, in which most of those present took part, many interesting facts in connection with the flower were brought out, and a hearty vote of thanks was proposed by the Chairman to Mr. Girdlestone for his most interesting address.

— **FLOWERS AT BOURNEMOUTH.**—On Sunday last Mr. M. E. Manwaring wrote to a daily contemporary:—"It may interest some of your readers to know what a prolonged summer is being enjoyed in lovely Bournemouth. In my garden, on the West Cliffe, I have now twenty-eight different flowers in bloom, including Sweet Peas, Roses, Mignonette, 'Geraniums,' Marguerites, Jasminum, Carnations, and others. The air is delightfully dry and mild, and on most days we are favoured with some hours of bright sunshine."

— **BRISTOL GARDENERS' ASSOCIATION.**—The sixty members who attended the fortnightly meeting on November 10th were delighted with the entertainment afforded them by Mr. G. Brooks, of Messrs. Garaway and Co.'s nursery, who read a paper entitled, "South Wales Notes." In it he described various things of interest to gardeners that he had seen at Cardiff Castle, The Hendre, Tredegar Park, St. Fagan's Castle, Golden Grove, Dowlais House, Hensol Castle, and other great gardens. Many interesting exhibits were staged by members, among which a vase of single Chrysanthemum Miss Mary Anderson, exhibited by Mr. Ambrose, was conspicuous. A vote of thanks to Mr. Brooks for his paper was unanimously accorded.—CHAS. LOCK.

— **THE WINTER'S GREEN CROPS.**—There seems to be a general impression that green vegetables will be scarce during the coming winter, and prices high in consequence of the long drought and the terrible ravages of the caterpillar. Few growers can remember a season in which this pest has played such havoc, and it is no uncommon sight to see whole breadths of Brussels Sprouts, Cauliflower, and Broccoli grown for market with the foliage entirely riddled, and presenting a pitiable appearance. Greens planted late have made little or no growth, and are not much bigger than when they were put out. In the neighbourhood of London and in Kent, where hundreds of acres are devoted to growing winter greens for the supply of the metropolis, the crop is not nearly so promising as usual, and there is every likelihood of the prices later on being prohibitive to many who depend on the greengrocer for their supply of winter greens.—V. T.

— **WHY FRUIT DOES NOT SET.**—We are reminded by the Director of the Kansas State Experimental Station that "in some varieties of fruits the flowers are self-sterile and refuse to take pollen even from another flower on the same plant. Fertilisation can then take place only when the pollen comes from a separate plant, that is, from a plant arising from a separate seed. All our varieties of orchard and small fruits are reproduced by cuttings, grafts, buds, layers or other similar methods, and not from seed, hence are merely one plant cut up into a great many parts. Therefore, in self-sterile varieties, such as Bartlett Pears, the pollen must be obtained from another variety. Isolated plants or large orchards of a single variety may fail to set fruit from this cause. To prevent such failures mix the varieties. The quickest way to remedy cases which have reached maturity is to top graft another variety for producing active pollen in sufficient quantity. An insufficient supply of bees will also hinder the setting of fruit. While other insects may take part in the carrying of pollen, the fruit raiser must rely chiefly upon honey bees. Experience shows that though hungry bees may fly two or three miles, hives should be within a mile of the orchard or fruit patch."

— **AMATEUR GARDENER'S ACTION.**—A case important to amateur gardeners was decided by Judge Addison, Q.C., at Woolwich County Court on Wednesday. A member of the North Woolwich Horticultural Society sued the Secretary and Treasurer of the Society for £5, the value of three prizes, won at the recent show and awarded by the Judges, which they refused to hand over. Plaintiff, a gas stoker living at 1, Dock Street, North Woolwich, said he was an exhibitor in sixteen classes; the Judges awarded him fifteen prizes, and only twelve were given him. The defence was that the Cabbages which won the prizes were not grown in the plaintiff's garden, as the rules of the Society stated they should be, and that the awards were thus secured by fraud. When Coslin's garden was inspected there was no sign that the vegetables had been grown there. His Honour said that did not matter; the Judges at the show had awarded the prizes to the plaintiff, and he could not go behind their decision. It was just as good as law. He accordingly found for the plaintiff, the £5 to be reduced to 1s. if the prizes were handed him.—("Reynolds' News.") In sending the above "A. D." writes:—"This is a most unfortunate judgment, and one that should be contested in a superior Court, as it puts a premium on fraud. Executives sometimes have facts brought to their notice after awards have been made that annul those awards because the exhibits are not in accordance with the requirements of the schedule of the exhibition. If such a judgment be allowed to stand uncontested it opens the door to all description of deception and fraud being practised at flower shows."

— **HESSLE GARDENERS' SOCIETY.**—At a meeting of the above Society, held on the 8th inst., Mr. G. Wilson of Swanland Manor presiding, Mr. Wilkinson, Elloughton, read a highly interesting and practical essay on "Buttonhole Bouquets: Making and Showing," illustrating his paper by what he considered properly and improperly made ones. There were a good attendance, and a discussion in which a great many members took part. The usual vote of thanks brought an enjoyable evening to a close.—J. T. B.

— **BUNCHING VIOLETS.**—Bunching Violets for market is an item on which it pays to take trouble. Good flowers frequently fail of a good sale through unskilful bunching. Two methods are in use—one with the flowers all of uniform height, and the other with the flowers of varying heights in the bunch; but in either case each individual bloom must show for its full value, and an abundant edging of good hard Violet leaves should surround each bunch. Rose leaves are hardly appropriate, and suggest that the Violets are lacking in fragrance. We recently saw a bunch of fifty Violets untied; when entirely unwound the string measured over 10 feet! The grower who put them up, says the "American Florist," must have been a rich find for the twine man.

— **ROYAL SOVEREIGN STRAWBERRY.**—At the Cobham Vineries the proprietor, Mr. Bennett, has shown great faith in Royal Sovereign Strawberry for late forcing in pots. He has not grown Strawberries in this way before, but resolving to do so, planted late in the autumn of last year, on some good soil, several hundreds of strong runners, taking from them early in the summer nearly 12,000, layering the young runners direct into 7-inch pots. I saw them the other day—really a splendid collection, standing in huge blocks of 1000, and throughout the entire lot there was not a weak plant. Literally every one was alike. Leafage was good and hard, but not at all coarse, whilst crowns were stout and firm. Such plants should give a wonderful quantity of fruit, and no doubt a fine sample also.—A.

— **GRAPE SPORTS.**—There seems to have been quite an outbreak of Grape sports of late, as several have been heard of. How far they may prove to be distinct when on their own roots, after propagation, time will show. I recently saw a very interesting one at the Ashford Vineries, Cobham, Surrey. Here on one of about 400 Gros Colman Vines planted in a new range two years since there has this season appeared two fine bunches having huge berries of almost inordinate size, quite round, and colouring superbly. Just below these hangs a bunch of the normal type. The wood of the sport is very rough, and the nodes very close together, really almost doubly close compared with the season's shoots of Gros Colman proper. This sport will be propagated during the winter, and should it later retain its present character, it will prove to be one of the finest black Grapes yet seen.—A. D.

— **WATERING PALMS.**—When should a Palm be afforded water? is with gardeners and amateurs an all-important query; and so far we have never seemed to have the right answer, because there have been mainly guesses at the reasons that should govern the application. Dr. Dammor says, "By the turgidity of the leaves and stem, which can readily be ascertained by the inability of the tips to be bent easily around the finger." If a plant be dry, the tips can be coiled round the finger with ease. The whole matter is made clear to the least botanically instructed reader by a description of the construction of the stem and the leaves. A little withering, says Mr. Meehan, does no harm. Warm water should always be used for Palms kept in rooms and hothouses—as warm, indeed, as 68° Fahr.

— **COTTON GROWING IN AUSTRALIA.**—Such marked success has attended some casual efforts in growing the cotton plant on the Clarence River, that it is believed the Government should make the endeavour to find out what the possibilities of the cotton-growing industries are in New South Wales. The climate and soil on the northern rivers are remarkably similar to the cotton States of America, and, as Mr. Barry, the manager of the Harwood Sugar Mill, says, "there seems to be little doubt that cotton will grow quite as well on the northern rivers as Maize." Last year I saw some specimens of the cotton plants that were growing on the Clarence; they were quite equal to any I have seen in Alabama and Florida. No doubt the plant can be grown here successfully, but the labour question is the difficulty to profitable cultivation. Mr. Campbell, Secretary for Agriculture, thinks that small farmers, who have a number of children to do the picking, might make a profitable thing of cotton-growing, but the thing must be gone in for on a big scale or not at all. Cotton will grow where Sugarcane will grow, but it will not grow always where Maize will grow. The northern river land is so rich, however, that all the semi-tropical plants will thrive to perfection.—("Australian").

— **CANTOR LECTURES ON INDIARUBBER PLANTS.**—The lectures delivered at the Society of Arts in April last, by D. Morris, Esq., C.M.G., D.Sc., Commissioner of Agriculture for the West Indies, late Assistant-Director of the Royal Gardens, have been issued in separate form as a pamphlet. They give a complete account with numerous figures of the known plants yielding commercial indiarubber, with special reference to the rubber industries connected with Her Majesty's Colonial and Indian possessions.—("Kew Bulletin.")

— **OCTOBER WEATHER AT DRIFFIELD.**—Mean temperature at 9 A.M. (corrected), 53.10°. Wet bulb, 50.96°. Mean maximum, 58.02°; mean minimum, 45.25°. Highest, 71.8°, on the 3rd; lowest, 34.4°, on the 9th. Mean of maxima and minima, 51.63°. Mean radiation temperature on the grass, 41.56°; lowest, 29°, on the 11th. Rainfall, 4.18 inches. Number of rainy days nineteen. Greatest amount on one day, 1.05 inch, on the 16th.—W. E. LOVELL, *Observer, York Road, Driffield.*

— **OCTOBER WEATHER AT DOWLAIS.**—Rainfall 7.54 inches, greatest fall 1.41 inch on the 17th, number of days on which rain fell twenty-one. There were only four days without rain in the last thirty days. Mean maximum temperature 55°, highest reading 77° on the 2nd. Mean minimum 41°, lowest reading 25° on the 31st. There were twenty-two sunless days, and only thirty-seven hours sunshine. The wind was in the W. and S.W. for fourteen days, and in the E. and N.E. for fourteen days. A very wet, cheerless month, with very cold, strong winds, and on several times blowing quite a gale.—W. MABBOTT.

— **SUSSEX RAINFALL.**—The total rainfall at Stonehurst, Ardingly, for October was 3.80 inches. This exceeds any previous month this year, but is 0.15 inch short of the average of the month. The heaviest fall was 1.45 inch, on the 29th. Rain fell on thirteen days. The maximum temperature was 65°, on the 3rd and 4th; the minimum 40°, on 10th, 11th, and 12th. Mean maximum, 60.02°; mean minimum, 47.16°; mean temperature 53.59°, which is 5.10° above the average. Rain has now come in abundance, and vegetation has revived, as if by magic. No frost, and we are still (1st November) gathering Runner Beans.—R. I.

— **OCTOBER WEATHER AT HODSOCK PRIORY, WORKSOP.**—Mean temperature, 52.4°. Maximum in the screen, 70.3° on the 2nd; minimum in the screen, 31.6° on the 14th. Minimum on the grass, 27.6° on the 13th. Number of frosts, in the shade one; on the grass four. Sunshine, 64 hours, or 20 per cent. of the possible duration. Difference from average — 21. Rainfall, 2.40 inches. Difference from average — 0.38. Rain fell on eighteen days. Maximum fall 0.47 on the 16th. Rainfall from January 1st 16.39 inches, difference from average — 4.70. The minimum in the screen and mean temperature are higher than in any previous October since observations commenced in 1876.—J. MALLENDER.

— **OCTOBER WEATHER AT BELVOIR.**—Very little rain came until early on the 17th, when a good fall commenced which lasted several days. The month was unusually mild, and at the present date (November 5th) our tender plants, such as Dahlias, Iresines, Tomatoes, and Scarlet Runner Beans are untouched by frost. The wind was in a southerly direction seventeen days. The total rainfall was 2.55 inches. This fell on nineteen days, and is 0.53 inch below the average for the month. The greatest daily fall was 0.55 inch on the 16th. Barometer (corrected and reduced), highest reading, 30.399 inches on the 4th at 9 P.M.; lowest, 28.910 inches on the 18th at 9 A.M. Thermometers, highest in the shade, 67° on the 2nd and 3rd; lowest, 34° on the 1st. Mean of daily maxima, 58.12°; mean of daily minima, 46.45°. Mean temperature of the month, 52.58°. Lowest on the grass, 30° on the 1st, 9th, and 13th; highest in the sun 115° on the 2nd and 9th. Mean temperature of the earth at 3 feet, 54.03°. Total sunshine, ninety-four hours forty minutes. There were seven sunless days.—W. H. DIVERS.

— **DUTCH HORTICULTURAL AND BOTANICAL SOCIETY.**—At a meeting of the Floral Committee held on October 12th, 1898, first-class certificates were awarded to Mr. T. E. Houtvester of Utrecht for Chrysanthemums President Nonin and Soleil d'Octobre; to Messrs. E. H. Krelage & Son of Haarlem for Cactus Dahlias Hohenzollern, Mary Service, Mrs. Dickson, and True Friend; to Mr. Egbert Kloosterhuis of Veendam for Populus trichocarpa, Pirus erythrocarpa, Stephanandra Tanakæ, and Ulmus argentea albo-marginata; and to Mr. C. Meynen of Groningen for Vriesea hybr. retroflexa × brachystachys. Certificates of merit went to Messrs. E. H. Krelage & Son of Haarlem for Cactus Dahlias Aegir, Falka, Island Queen, Maid of Honour, and Mrs. John Goddard; and to Mr. H. D. Willink van Collen of Breukelen for Iochroma Warscewiczii.

— *CRATÆGUS LELANDI*.—This berried shrub is most accommodating, as it can be trained up to a house or wall, or be left to grow literally as it likes, or be pruned in bush or pyramidal form, and no matter how grown, it seems to berry very profusely almost every year. I have seldom seen it in more attractive state than it is just now at Dr. Trounce's, Surbiton, where some strong plants, quite informally grown, carry large heads above the outer wall, these being densely covered with scarlet berries. Naturally these shrubs attract the attention of all passers-by. Trained on a house, the shrub wears a rather formal aspect. Pyramids or bushes, especially such a gigantic bush as there is at Coombe Wood Nursery, form fine features on lawns. Small pyramids in pots, well berried, make charming Christmas or winter decoration.—D.

— *APPLES AND THE DROUGHT*.—It is a well-known fact that any stint in the application of water to the roots of fruit trees grown under glass in the autumn, when the wood is ripening and the buds maturing, is not conducive to a good crop the following season. By applying the same theory to outdoor fruits we may gather some idea of the effect of the drought experienced both last season and this. Owing to the scarcity of rain in the south the soil is quite dry to a considerable depth, and roots are without the moisture necessary for the feeding of branches and plumping of buds. We were similarly situated this time last year, and though there was an abundance of Apple blossom in the spring, it appeared to possess no stamina, and fell wholesale. The trees too, except the most robust kinds, have not made much healthy growth, and unless there is an abundance of rain before the year is out Apples will suffer considerably. Some growers are watering by artificial methods, but unfortunately this is impossible in many places, owing to the scarcity of the liquid.—H.

— *GROWTH ON FRUIT TREES*.—The season, so singularly dry and hot, has none the less shown the remarkable power possessed by fruit trees, especially free-grown ones, to find nutriment for wood production, and on the whole that has been as free as may be seen in most seasons. We did grumble very much in the early summer on finding that our ordinary trees of Apples, Pears, and Plums were so very lightly cropped generally, yet it seems to have been a wise dispensation of Nature it should have been so, seeing that heavy fruit crops, to be borne and sustained during such a summer and autumn as the past season was, would have been all too exacting. Now we see trees generally, and in spite of the exceeding dryness of atmosphere and soil, carrying good growth and a liberal stock of fruit buds. If, therefore, we do not get a good fruit crop next year it will not be for lack of fruit buds, but will be due to some other cause. What rains we have had so far have not gone deeply and largely the roots are still in dry soil. But wood and leafage have benefited, and surface roots, where existing. When the customary winter rains come, as we hope they will abundantly shortly, the leaves will have fallen, and then a copious supply of moisture in the soil, whilst refreshing the roots and making them very active, should yet do no harm to the bloom buds, but should rather help to plump them up. Our prospect of a good hardy fruit crop next year seems to depend more on the quantity of moisture furnished to the soil than to any other cause. If the subsoil, now so exceptionally dry, does not get a good saturating during the winter we can hardly expect that our trees, especially those carrying fruit crops, will continue to exist healthily under such dry conditions. At present, beyond hoping, we have no substantial reason to assume that the great deficiency of soil moisture now so apparent will be during the winter modified, much less equalised.—WANDERER.

KNIPHOFIA ALOIDES.

It does not appear to be generally known that this S. African plant can be used with great success as a late autumn and early winter flowering plant for the greenhouse, with very little trouble. For this purpose it is necessary to grow it in pots throughout the summer and retard it, so that the spikes do not begin to appear until the end of September. Good strong plants should be selected and potted in rich soil in March. They must be kept growing outside—without the aid of stimulants—until the end of August, when liquid manure should be given.

About the end of September, when the spikes begin to show, the plants should be stood in a cold greenhouse, where they will continue to flower for a considerable time. As an associate for other plants it is admirable, being distinct and showy. Numerous instances will suggest themselves where it will make a good companion for some other plant to form a group. Mixed with white Chrysanthemums it is very striking.

At Kew about twenty plants are flowering in the temperate house. They are in pots varying in size from 7 inches to 12 inches in diameter, and are carrying from five spikes on the smaller to fifteen on the larger plants. The spikes are quite as fine, though the colour is a little paler, as they were on plants which flowered earlier in open borders.—W. D.

RENOVATING FRUIT TREES.

I HAVE been engaged for the past month on and off, as the weather permitted, root-pruning, or, more properly speaking, renovating many of my fruit trees. I have had so little success, even on a south wall unprotected, with Apricots and Nectarines, that I pass them without further notice, except not to recommend any friend to lose a good south wall with them, even in the south of Ireland, except they protect with sashes in the early spring months. Most of my walled-in town garden soil has been made, and unfortunately portions of it are rather shallow and poor, than rich and deep.

From this your readers will see that your most interesting notes on improving fruit trees and root-pruning must be considerably modified to suit my case. In fact, I should hardly have troubled you, though a correspondent of the *Journal* for twenty years, except to suggest that each case be dealt with on its individual merits and fully thought out. My subsoil being shallow I had no tap roots, and therefore none to cut away, and the subsoil being rather poor than too rich I had beforehand to prepare more than a dozen loads of loam and decayed manure and ashes to replace the exhausted soil around the roots. I removed all the soil three-fourths around for a 4-foot radius, and filled in with this compost, removing a few of the larger roots, and leaving every possible feeding root. I found this system so useful and prolific of results for the few years, that I determined to give it a more extended trial.

A neighbouring gentleman, on the other hand, has a deep soil, probably overloaded with organic matter, and for his case cutting the deep-going tap roots and the application of lime rubbish, brickdust, and any soil of a sandy formation, would be the most suitable autumn and winter treatment for non-prolific fruit trees, especially Apples, Pears, and Plums. In the soil such as I referred to, with me bush fruit has always been heavily laden—yellow and amber, red and green Gooseberries, hairy and smooth skins, without exception—Currants and Raspberries not so satisfactory. Of Cherries, the heaviest cropper is the Morello, then the May Dukes, and lastly the Bigarreau and Elton. I give them very little pruning, root or branch. Two varieties of Figs on walls I have not succeeded in fruiting satisfactorily.

Among Apples that have given me excellent results with this treatment are Warner's King, Hawthornden, Mère de Ménage, Stirling Castle, Worcester Pearmain, Lord Suffield, King of the Pippins, Emperor Alexander, Blenheim Orange, and for the first three years, Ribston Pippin—it then cankers. Cox's Orange Pippin even on a wall is unsatisfactory. I cannot say any variety of Pear or Plum, and I have most of the popular kinds, is as heavily cropped as I see them in gardens in England, Ireland, and a few in Scotland.—W. J. MURPHY, Clonmel.

CHRYSANTHEMUM SHOWS.

BIRMINGHAM.—8TH, 9TH, AND 10TH.

THE second of the largest of the thirty-eight shows held under the auspices of the Birmingham Chrysanthemum, Fruit, and Vegetable Society, was held in the Bingley Hall, and the arrangements, under the joint efforts of the Secretaries, Messrs. J. Hughes and F. W. Simpson, and their co-workers, were an improvement on the first occasion. In one or two respects the competition was not so great as that of last year—notably in the "groups of Chrysanthemums for effect," and the "display of floral arrangements," in which there was a considerable falling off. A great attraction was the fine and interesting exhibit of fruit and flowers sent from the Royal Gardens, Frogmore—not for competition. It was rendered further conspicuous by the prettily draped and canopied stand on which the exhibit was arranged, additional interest being created by the fact that by the Queen's kind commands the produce was to be afterwards distributed by the Lady Mayoress among the local hospitals. There were about 150 dishes of Apples and Pears, a dozen fine Pine Apples, and several bunches of Grapes, cut from the celebrated Hampton Court and Cumberland Lodge Vines. Conspicuous also in the floral arrangements were a large number of vases filled with Princess of Wales Violets. The Right Hon. Joseph Chamberlain's special non-competitive exhibit of plants and cut flowers also came in for a share of public attention.

Amongst cut blooms of Chrysanthemums the leading exhibits in the incurved section were remarkably fine, and in point of merit doubtless excelled the Japs, and which latter, though of excellent quality, were hardly on the average so large as some of those exhibited on former occasions.

In the display of floral arrangements, in spaces not exceeding 20 feet by 5 feet, the coveted prize of £12 10s., and silver cup value £5, was secured by Mr. John Crook, Birmingham, with an artistic arrangement; Messrs. Pope & Sons, Birmingham, being a close second. Continuing the principal classes according to the order of schedule, that of the "collection of British-grown fruit, to be grown by the exhibitor," was well contested, and Mr. J. H. Goodacre, of Elvaston Castle Gardens, had to give way to his formidable opponent, Mr. G. Marlkins, gardener to Lady H. Somerset, Ledbury. The third prize was allotted to Mr. W. Crump, Madresfield Court Gardens.

The specimen Chrysanthemum class, which has always been a feature at the Birmingham shows, showed a material falling off, especially in the size of the blooms. For nine large-flowering plants (Japanese excluded) the first prize was awarded to Mr. Oliver Brasier, gardener to Lady Martineau, Edgbaston; the second to Mr. J. Maldrem, gardener to Geo. Cadbury, Esq., Northfield; and the third to Mr. A. Cryer, gardener to

J. A. Kendrick, Esq., Edgbaston. In the class for six specimens the first and second positions were reversed, Mr. Cryer being placed third. For six Japanese, as the only exhibitor the first prize was worthily awarded to Mr. Brasier. For three plants Messrs. J. Maldrem; W. Otway, gardener to A. Allright, Esq., Edgbaston; and A. Cryer were placed in their order named.

In the class for a semicircular group of Chrysanthemums, arranged

probably the best stand ever exhibited at Birmingham, both in substance, size, and colour. The varieties were Duchess of Fife, W. Tunnington, Charles Curtis, Madame Ferlat, Lord Alcester, Mrs. O. Foster, Lady Isobel, John Lambert, Brookleigh Gem, Miss Haggas, Mrs. Heale, Violet Tomlin, Major Bonnaillon, Empress of India, Miss Dorothy Foster, Topaze Orientale, J. Agate, Lucy Kendall, Golden Empress, Princess of Wales, Mr. S. Colman, Robert Petfield, Jeanne d'Arc, and Queen of England.



FIG. 65.—R. HOOPER PEARSON. (See page 376.)

for effect (in a group in a space 20 feet wide at the back and 12 feet deep), Mr. G. Menzies, gardener to Richard Cadbury, Esq., Uffculme, Moseley, took the premier position. The second prize was secured by Mr. J. V. Macdonald, gardener to G. H. Kenrick, Esq., Whetstone, Edgbaston. Mr. O. Brasier was third. For a smaller group there were five competitors. Mr. J. Maldrem was first with a very artistic arrangement, the second prize being deservedly awarded to Mr. E. J. Musten, gardener to A. P. Bird, Esq., Moseley. Mr. L. Fawkes had to be content with the third position.

For twenty-four blooms, incurved, distinct, the premier prize fell to Mr. C. Crooks, gardener to Lady Hindlip, Hadzor, Droitwich, with

Mr. J. H. Goodacre was a close second, and Mr. F. G. Foster, Havant, third. In the class of eighteen incurved, distinct, out of four entries there was only one exhibitor, the first prize being awarded to Mr. C. Crooks with an excellent stand. For twelve blooms of incurved, distinct, the first prize fell to the same grower with beautiful examples: the second to Mr. R. Jones, gardener to C. A. Smith Ryland, Esq., Barford Hill, Warwick; and the third fell to Mr. J. Copson, gardener to Mrs. P. Phipps, Northampton.

There was a brave show of the Japanese section, and in which there were several splendid examples. Mr. W. Pearce, gardener to S. Loder,

Esq., Floore House, Weedon, secured the premier prize for twenty-four Japanese with G. H. Warren, Graphic, R. Powell, Mrs. J. Lewis, Madame Gustave Henri, Phœbus, Elthorne Beauty, Pride of Exmouth, Duke of Wellington, Lady Hanham, Madame Carnot, Mons. Chenon de Léché, Silver King, Lady Ridgway, President Nonin, M. Geo. Bruant, Mrs. H. Weeks, Mrs. C. Blick, Vivian Morel, Lady Byron, Schwabe, N.C.S. Jubilee, Edith Tabor, and M. Massage de Louvrex. The second honours fell to Mr. C. J. Salter, and the third to Mr. W. H. Lees. In the class of eighteen blooms, distinct, Mr. T. Selany, gardener to E. S. Cope, Esq., Redditch, took the prize in a close contest; the second position went to Mr. R. Jones, Warwick; and the third prize to Mr. W. H. Westbury, gardener to C. Showell, Esq., Park Vale, Edgbaston.

For twelve blooms Mr. C. J. Salter was the victor with fine examples: Mr. R. Jones was second; and Mr. G. Neal, gardener to P. South, Esq., Bampton, third. An interesting class was for six blooms of any one variety of white Japanese Chrysanthemums, and which brought forth from Mr. R. Jones, Warwick, a superb stand of Madame Philippe Rivoire. Mr. G. Neal was second with Madame Carnot, and Mr. T. Whillans, gardener to the Duke of Marlborough, Blenheim Palace, third with Mdlle. Thérèse Rey. The Anemone section was exceedingly well represented by Messrs. C. J. Salter, C. Batchelor (gardener to Mrs. Armfield, Edgbaston), and Mr. R. Jones, Warwick, according to their order named.

An interesting class was that for twelve blooms of Japanese Chrysanthemums on long stems arranged with any kind of foliage, and not to exceed 15 inches in height. The first position was assigned to Mr. G. Menzies for a tasteful arrangement of fine blooms, closely followed by Mr. S. Gibbs, gardener to J. B. Manley, Esq., Harborne, and Mr. W. Austin, gardener to J. Horton, Esq., Moseley. For a vase of Japs, six blooms of any one variety, on stems not less than 18 inches long, Mr. W. Walker, gardener to H. Needham, Esq., Gravelly Hill, Birmingham, was first; Mr. C. Braun, gardener to Mrs. J. D. Wingfield Digby, Coleshill Park, Birmingham, coming in second prizetaker; and Mr. W. Otway third.

The show of fruit was of an unusually extensive scale, and the quality good throughout, the competition being keen in especially the Grape classes, and the Muscat of Alexandria were of exceptionally good quality. Apples and Pears were numerous shown, and of fine quality. Vegetables were in force, and of excellent quality.

A notable feature was a finely arranged collection of Cacti exhibited by Mr. A. F. Walton, Handsworth, and for which a gold medal was awarded; while similar medals were accorded to Mr. Owen Thomas of Frogmore for the collection of fruit already noticed: to Mr. Deacon, gardener to the Right Hon. the Colonial Secretary, Highbury; to Messrs. Sutton & Sons, Reading, for fine collections of Potatoes and plants; to Messrs. J. Laing & Sons, London, for an attractive and fine collection of fruit and plants. Silver medals went to Messrs. Pope & Sons for ornamental shrubs; to Messrs. Simpson and Son for plants grown in Jadoo fibre; to Mr. J. Basham for a collection of Apples; to Messrs. Yates & Son, Birmingham, for vegetables; Messrs. Webb & Sons, Wordsley, and Mr. H. Deverill, Banbury, for Onions; to Messrs. Pewtress Bros., Hereford, for Apples; Messrs. J. Waterer and Son for Conifers; Messrs. Hewitt & Co., Solihull, for shrubs; Messrs. Thomson & Co., Birmingham, for vegetables; Messrs. W. Clibran & Son for Celosia plumosa, and Mr. J. Hughes, Harborne, for a wreath; with bronze medal to Messrs. W. Edwards & Sons for collection of Ferns and flowers, and Mr. H. A. Burberry for Orchids.

BOURNEMOUTH.—NOVEMBER 9TH AND 10TH.

FOR the twelfth year in succession the Bournemouth and District Chrysanthemum Society has held its annual show of Chrysanthemums, fruit, flowers, and vegetables. Each year has been marked by changes in one form or another. A few years ago incurved flowers took a prominent place on the stands of cut blooms and in the groups, but in the exhibition just held in the Winter Gardens of the Hotel Mont Dore, with few exceptions they were indifferently shown, and as one of the Judges remarked, they were not up to London standard.

The blue ribbon of the meeting was for thirty-six Japanese cut blooms, not more than two of any one variety, and there were ten exhibitors. The first prize was awarded to Mr. F. S. Vallis, Bromham, Chippenham, for a magnificent stand of blooms. It contained the premier bloom of the exhibition, a Yellow Carnot (G. J. Warren), which was awarded the N.C.S. certificate of merit. The following were his thirty-six:—Mad. Carnot, Phœbus, Lady Hanham, E. Molyneux, G. J. Warren (premier bloom), J. Lewis, V. Morel, M. Gustave Henri, Mutual Friend, Swanley Giant, Charles Davis, Mad. G. Bruant, F. Carrington, M. Hoste, Modesto, Simplicity, M. Chenon de Léché, Pride of Madford, Philippe Rivoire, Mad. M. Ricoud, Oceana, Pride of Exmouth, President Nonin, Louis Remy, and Elthorne Beauty. Mr. T. Wilkins, gardener to Lady Theodora Guest, was a capital second; Mr. A. J. Allsop, gardener to Viscount Portman, was third with a good stand. Competition being so keen in this class, extra prizes were awarded in the following order:—Lady Harper Crewe (Mr. W. H. Jobling, gardener); her Majesty the Queen (Mr. G. Nobbs, gardener); and to H. J. Mills, Esq. (Mr. H. Prosser, gardener).

For twelve Japanese, distinct, there were again ten entries, and the first prize was secured by Mr. Wilkins for a good stand, containing Mrs. H. Weeks, Lady Hanham, Mutual Friend, Vivian Morel, G. J. Warren, Werther, J. Chamberlain, Mrs. H. Long, E. Tabor, Australie, M. Carnot, and R. Powell, his best being V. Morel, Australie, Werther, E. Tabor, and Mrs. H. Weeks. Mr. Nobbs was second. For twelve incurved, distinct, out of six entries Mr. Nobbs was placed first, with a fair stand of blooms containing Duchess of Fife, Mrs. R. C. Kingston, C. H. Curtis,

Ma Perfection, Major Bonnaillon, Princess of Wales, John Lambert, J. Agate, Prince Alfred, Miss Dorothy Foster, Queen of England, and M. P. Martignac. Mr. Wilkins was second, and Mrs. F. Ricardo (gardener, Mr. T. Boote) third.

For six Japanese, one variety.—First, A. B. Sheridau, Esq., Dorchester (gardener, Mr. H. J. Harvey), with M. Carnot; second, W. H. Dore, Esq., Bournemouth (gardener, Mr. L. J. Newell), with Australian Gold; third, Mr. T. Wilkins, with M. Carnot. For six incurved, one variety (seven entries), Mr. Allsop was a good first with C. H. Curtis; second, W. F. Machin, Esq., Bournemouth (gardener, Mr. C. Troke), with C. H. Curtis; third, Mr. Nobbs, with Ma Perfection. For six Japanese incurved, distinct.—First, Mr. Nobbs; second, Mr. T. Boote; third, Mr. H. J. Harvey.

For nine cut blooms, Japanese, on long stems, to be shown in a vase with any foliage, there were eight entries. The first prize was awarded to Mr. L. J. Newell, whose vase contained nine blooms of M. Carnot; the second went to Mr. Allsop for a well-arranged vase containing mixed blooms; and the third to Mr. T. K. Ingram, nurseryman, Parkstone. For a group of Chrysanthemums and foliage plants grown in pots, and arranged in a space of 100 square feet, quality and general effect to be the leading features, only two groups were staged, but they were both good, and Messrs. Watts & Sons, The Palace Nurseries, Bournemouth, who have secured the first prize on many occasions, had to be content with a second this year, as they were handsomely beaten by their younger rival, who only exhibited for the first time last year—viz., Mr. H. Haskins, Branksome Nurseries, Bournemouth.

Upwards of sixty classes were open to gardeners, amateurs, and cottagers within a radius of twelve miles, and there was keen competition in most of the classes, and some splendid exhibits. Groups of Chrysanthemums were not so numerous, but of good quality. Special classes for cut blooms and foliage plants, illustrating the decorative effect, and also showing the different sections of Chrysanthemums, brought out some splendid exhibits. Bouquets, epergnes, sprays, and buttonhole bouquets were capitally shown, and in the fruit and vegetable classes some splendid examples of cultivation were shown.

In the non-competitive exhibits the Society's certificates were awarded to the following:—Teignmouth Chrysanthemum Nursery Company for new and choice varieties of Chrysanthemums; Mr. W. E. Tidy, Bournemouth, for floral designs; to Mr. T. K. Ingram, nurseryman, Parkstone, for floral designs and plants; C. H. Ratsch, Ltd., Christchurch and Bournemouth, for floral designs and plants; and to E. Handley, Esq., Bournemouth, for Orchids and plants.

BROMLEY.—NOVEMBER 9TH AND 10TH.

THE seventeenth exhibition was held in the Grand Hall, Bromley, which was filled to its utmost capacity. The competition was very keen, all the classes being well filled. The groups were specially noteworthy. The plant, fruit, and vegetable classes were also a feature of the exhibition, and we regret our space at this season does not admit of details.

There were five competitors for twenty-four Japanese and twenty-four incurved blooms, in not less than eighteen varieties of each. Mr. C. Payne, gardener to C. J. Whittington, Esq., Bickley Park, was awarded the cup for the second time. Both boards were very strong. The best blooms were Simplicity, Australie, Mrs. W. H. Lees, Phœbus, Joseph Chamberlain (grand), E. Molyneux, Vivian Morel, and G. C. Schwabe. The incurved varieties were well finished; the best flowers were Globe d'Or, Madame Ferlat, C. H. Curtis, Robert Petfield, and Mr. J. Murray. Mr. J. E. Poole, gardener to A. G. Hubbuck, Esq., Chislehurst, was a close second with good blooms of Milano, Duke of Wellington, Chas. Davis, J. Bidencope, Iserette, Lady Ridgway, and Mrs. G. W. Palmer in the Japanese section, while Duchess of Fife, Mrs. R. C. Kingston, President Nonin, Chrysanthemum Bruant, and Ma Perfection were the best incurved blooms. Mr. J. Lync, gardener to H. J. Tiarks, Esq., Chislehurst, was third. There were four competitors for twenty-four Japanese blooms, distinct. Here Mr. J. Blackburn, gardener to J. Scott, jun., Esq., Chislehurst, secured the first prize with a very bright stand. The best flowers were G. J. Warren, Eva Knowles, Mrs. Weeks, Ella Curtis, Vivian Morel, Royal Standard, Chas. Davis, and Lady Hanham. Mr. A. J. Dodd, gardener to Mrs. Campion, Redhill, was second with good examples of Préfet Robert, Australie, Mrs. J. Lewis, and Madame Carnot. Mr. Lewis Budworth, The Horticultural College, Swanley, was third.

There were ten exhibits in the class for twelve blooms each of Japanese and incurved varieties, distinct, the competition being very keen indeed. Mr. H. Reddon, gardener to G. W. Bird, Esq., West Wickham, was placed first with an even exhibit, the incurved varieties being well finished. The best blooms were E. Molyneux, Edith Tabor, Préfet Robert, and Phœbus in the Japanese section; while Duchess of Fife, Prince Alfred, Mr. J. Murray, Chas. H. Curtis, and Madame Darier were noteworthy in the incurved section. Mr. Chas. Blick, gardener to M. R. Smith, Esq., Hayes, was placed second, and Mr. C. Payne third.

A popular class was that devoted to eighteen blooms, six each of Japanese, incurved, and reflexed varieties. Mr. J. E. Poole was placed first with a very even stand, Mr. J. Lync was second, and Mr. W. Thomas, gardener to J. Greig, Esq., Chislehurst, third. For twelve incurved varieties, Mr. J. Munro, gardener to J. L. Bucknall, Esq., Beckenham, was placed first with good blooms of Mrs. R. C. Kingston, Chas. H. Curtis, and Mr. J. Keane. Mr. H. Reddon was a good second, and Mr. W. Pascoe, gardener to Capt. Torrens, third.

For six blooms, distinct, Mr. C. Payne was placed first with a capital exhibit. Mr. G. Prebble, gardener to M. Hodgson, Esq., Croydon, was a

good second, and Mr. F. Francis, gardener to C. S. Good, Esq., Orpington, third. There were eleven stands staged for the best six blooms of Chas. H. Curtis, Mr. H. Reddon winning first with a superb half dozen, followed by Messrs. J. Dodd and J. Blackburn in the order named. Mr. C. Blick secured the first prize for six blooms, one variety, with grand specimens of Edith Tabor; while Mr. J. Lyne secured the premier award for six incurved blooms of Duchess of Fife.

Mr. G. Brister, gardener to F. C. Charlesworth, Esq., Bickley, again secured the silver cup for a group of Chrysanthemums with one of the finest groups seen this year; the blooms were very even throughout. Mr. E. Dove, gardener to W. E. Fry, Esq., Bickley Hall, was a first-rate second, though the blooms lacked the quality of the other exhibit.

Messrs. J. Laing & Sons, Forest Hill, contributed a display of Palms, foliage plants, and a good variety of autumn flowering plants; also a collection of well-grown Conifers.

CARDIFF.—NOVEMBER 9TH AND 10TH.

THIS flourishing Society held its twelfth annual show in the Park Hall, Cardiff, on the 9th and 10th inst. Although the entries were numerically below the average the quality of the exhibits reached a very high standard. The Chairman and Committee have every reason to be pleased with the success of the show.

In the open class for twenty-four cut blooms, Japanese, distinct varieties, Mr. G. W. Drake, Cardiff, staged a grand collection as follows: Mrs. J. M. Lewis, M. Chenon de Léché, J. Seward, Mrs. Palmer, Mutual Friend, Dorothy Seward, G. J. Warren, Australie, Duke of York, Etoile de Lyon, Pride of Madford, Mad. Carnot, G. C. Schwabe, Mad. G. Henri, Mrs. C. H. Payne, Phœbus, Pride of Exmouth, M. Gruyer, T. Wilkins, Elthorne Beauty, Mrs. Weeks, Mrs. Carpenter, Lady Hanham, and Mary Molyneux; Mr. J. Howe, gardener to G. Rutherford, Esq., Llandaff, was a good second. In the class for twelve cut Japs, Mr. H. A. Joy, gardener to R. A. Bowring, Esq., Cardiff, took first honours. His best were Mrs. Lewis, E. Molyneux, Gen. Roberts, Phœbus, Lady Hanham, and President Nonin; Mr. G. W. Drake was a very close second. Sir Chas. Phillips (gardener Mr. J. Dumble) staged an invincible stand of incurved blooms, the best ever seen in Cardiff. Lady Isobel carried off the N.C.S. certificate for the best bloom in the show. Mad. Ferlat, J. Agate, C. H. Curtis, Topaze Orientale, Mrs. Col. Goodyear, a new variety, Ma Perfection, and Bonnie Dundee were all grand.

Mr. Dumble also secured the N.C.S. medal for twenty-four Japs, eighteen varieties, with a fresh and heavy lot of bloom as follows:—Graphic, Eva Knowles, Phœbus, Mary Molyneux, Mad. G. Henri, Australie, N.C.S. Jubilee, Lady Ridgway, Mrs. Mease, D. Seward, Mad. Carnot, Australian Gold, Mons. Hoste, M. Chenon de Léché, Mutual Friend, V. Morel, and Pride of Exmouth; R. A. Bowring, Esq., was second. Massive blooms of Phœbus won the prize for six Japs, one variety, for A. Gottwaltz, Esq., Penarth. Alderman Morel (Mayor of Cardiff) was first for twelve Japs, six varieties, with heavy blooms; the best were Mrs. Payne, Mrs. Palmer, E. Knowles, Australie, D. Seward, and Mad. G. Henri.

Mr. H. Allen, Penarth, headed the amateur class with a good stand of twelve Japs. Mr. W. Treseder's group in the open class was one of the finest ever seen in Cardiff, and secured the N.C.S. certificate for the best plant or plants in the show. The plants were well grown, and carried blooms of the highest standard. Amongst a good display of trained plants was one of Madame Carnot which had sported, and half the blooms were white and half yellow. The bouquets, wreaths, and floral work produced very keen competition, Mr. A. E. Price eventually getting the gold medal, with Mr. W. Treseder second, close on his heels. Chrysanthemums shown with long stems made a new class, and a successful one. Primulas, Cyclamen, Orchids, and table plants were all well shown, and fruit and vegetables made an attractive display. Mr. W. Treseder had a charmingly attractive stand of cut blooms and Dahlias, also a group of hardy plants and flowers tastefully set out. It was hard to realise that it was mid-November with such a bright display of colour. Mr. W. Wells, of Earlswood, showed some fine blooms of Mrs. White Popham, John Pockett, Mrs. Barks, Mary Molyneux, President Bevan and Mr. T. Carrington; also some charming singles.

HANLEY.—NOVEMBER 9TH AND 10TH.

THE sixteenth annual exhibition was opened in the Victoria Hall on Wednesday. The entries numbered 170, which is a slight increase on last year, and prizes to the value of £100 were offered. The cut blooms were exceedingly fine; there was an increase in the number of exhibits, but a falling off in the number of grouped plants. According to the "Staffs Advertiser" the orchestra was decorated with a number of fine foliage plants from the Park, which had a very good effect.

In the open division for a group of Chrysanthemums Mr. R. G. Howson, Shelton, was first. Twenty-four cut blooms, incurved, eighteen varieties.—First, the Earl of Harrington, Derby; second, Mr. R. W. D. Harley, Brampton Bryan Hall, Hereford; third, Mr. J. McPhail, Longton. Twenty-four cut blooms, Japanese, eighteen varieties.—First, Mr. R. W. D. Harley; second, Mr. J. McPhail; third, Mr. T. Bolton, Oakamoor; fourth, the Earl of Harrington. Twelve cut blooms, incurved, distinct varieties.—First, the Earl of Harrington; second, Mr. J. C. Waterhouse, Prestbury; third, Mr. R. W. D. Harley. Twelve cut blooms, Japanese.—First, Mr. J. C. Waterhouse; second, Mr. T. A. Brace, Derby; third, Mr. R. W. D. Harley; fourth, the Earl of Harrington. Three vases of Chrysanthemums.—First, Mr. S. Montford; second, Mr. J. Wallis, Keele; third, Mr. G. L. Key, Normacott.

In the open amateurs' class for twelve blooms, incurved.—First, Mr.

D. A. Lewis; second, Mr. E. Deakin; third, Mr. J. Lowe; fourth, Mr. C. Robinson. Six blooms, incurved.—First, Mr. D. A. Lewis; second, Mr. P. Simpson; third, Mr. J. Lowe; fourth, Mr. C. Robinson. Twelve cut blooms, Japanese, six varieties.—First, Mr. D. A. Lewis; second, Mr. P. Simpson; third, Mr. J. Lowe; fourth, Mr. C. Robinson. Six cut blooms, Japanese, distinct varieties.—First, Mr. P. Simpson; second, Mr. J. A. Lewis; third, Mr. C. Robinson; fourth, Mr. J. Lowe.

LIVERPOOL.—NOVEMBER 9TH AND 10TH.

ALTHOUGH Liverpool Show has gone through many vicissitudes financially, yet one thing is quite certain, that the Committee have never for a single moment allowed them to interfere with the high character of the Show, and we think that we have never seen a more beautiful one than that which opened in St. George's Hall on the above dates. Fruit was magnificent.

The principal class for cut blooms was won by Mr. James Heaton, gardener to R. P. Houston, Esq., M.P., The Lawn, Aigburth, with a splendid stand, composed of—Japanese: Madame Gustave Henri, Mons. H. J. Jones, Graphic, Ella Curtis, Mons. Hoste, Eva Knowles, Simplicity, Australian Gold, Phœbus, Mons. Chenon de Léché, Pride of Madford, Duke of Wellington, E. Molyneux, Pride of Exmouth, Mrs. G. W. Palmer, N.C.S. Jubilee, Australie, Mrs. J. Lewis, Edith Tabor, Lady Hanham, Robert Powell, Lord Justice Lopes, Mons. Panckoucke, and Lady Ridgway. Incurved: Duchess of Fife, Perle Dauphinoise, Miss D. Foster, Ma Perfection, Jno. Lambert, Lady Isobel, Chas. Curtis, James Agate, Lord Alcester, Leonard Payne, Queen of England, Jno. Doughty, Violet Foster, Mrs. N. Molyneux, Empress of India, Jno. Salter, Robert Petfield, Miss M. A. Haggas, Austin Cannell, Golden Empress, Baron Hirsch, Miss V. Tomlin, Globe d'Or, and Princess of Wales. The second prize went to Mr. Geo. Burden, gardener to Mrs. Cockburn, Lingdale Lodge, Claughton, and the third went to Mr. P. Greene, gardener to Thos. Gee, Esq.

For eighteen Japanese, distinct, Mr. Chas. Osborne, gardener to H. J. Tate, jun., Esq., was well ahead out of some five exhibitors with fine blooms of Australie, Lady Ridgway, Richard Dean, Milano, Duke of Wellington, Graphic, Eva Knowles, G. W. Palmer, and Madame Gustave Henri. The second prize, staged by Mr. J. Davies, gardener to E. Ellis, Esq., was fine. The third prize fell to Mr. Jakeman, gardener to R. R. Heap, Esq., and a new exhibitor. Seven staged in the class for twelve Japanese, and here Mr. Dawes, gardener to Lord Trevor, Brynkinalt, Chirk, had a stand which received special encomiums from the Judges, the best flowers being Australie, International, Jno. Seward, Robert Powell, Mrs. H. Weeks, and Edith Tabor. The second prize was awarded to Mr. Young, gardener to the Cheshire Lines Committee, Otterspool, Liverpool. The third prize fell to Mr. E. Broadey, gardener to W. H. Jones, Esq., with a capital stand. In the class for six Japanese Mr. Jno. George, gardener to F. W. Mayor, Esq., Whitfield House, Roby, had blooms of exceptional merit.

For eighteen incurved Mr. J. Davies, gardener to G. Ellis, Esq., Dee View, Heswall, was ahead with blooms of C. H. Curtis, Madame Ferlat, Mrs. R. C. Kingston, Lady Isobel, Topaze Orientale, Globe d'Or, Baron Hirsch, and Jeanne d'Arc. The second prize was won by Mr. C. Osborne, gardener to H. Tate, Esq., Allerton Beeches; and the third by Mr. Jakeman. Mr. W. Dawes was to the fore with twelve incurved. Mr. E. Broadey was a good second. Mr. Ed. Wharton, gardener to Jno. Findlay, Esq., was third. For six Mr. Chas. Sherlock, gardener to E. Edmundson, Esq., Woodlands, won.

For groups of Chrysanthemums Mr. J. Bracegirdle, gardener to W. H. Watts, Esq., Elm Hall, Wavertree, won by superiority of blooms, albeit Mr. Cromwell, gardener to T. Sutton Timmis, Esq., had a beautiful arrangement. For one standard trained, one untrained, and six untrained, Mr. T. Gowen, gardener to J. A. Bartlett, Esq., Lynton Lodge, Mossley Hill, showed in good style.

In trade exhibits Messrs. Dickson's, Ltd., Chester, had their usual capital display of Apples; Messrs. Jno. Cowan & Co., Gateacre, with a charming collection of Orchids. The Cyclamen from the Messrs. Kers of Aigburth were never seen in such form or more admired. Messrs. Turner Bros., Liverpool, had lovely floral designs.

MONMOUTH.—NOVEMBER 9TH AND 10TH.

NEVER before in the history of the Society has such a splendid collection of flowers, fruit, and vegetables, or such a magnificent floral spectacle been made under its auspices, as was displayed at the Society's annual show in The Rolls Hall on Wednesday and Thursday. It eclipsed any previous local exhibition of the kind, and so numerous were the exhibits that even the spacious accommodation of the hall was strained to afford sufficient room. In each branch—flowers, fruit, and vegetables—the entries were numerous, and quality all round was markedly improved.

The display of Chrysanthemums was really magnificent. In class 1, for the best 60 feet group, Mr. Bannerman, Wyastone Leys, again took first prize. The second and third were fairly equal. The other three competitors were particularly good, and the judges asserted that a few years ago either would have taken a first prize. In the 30 feet group only one entry was received, and it is, says the "Monmouth Beacon," to be regretted that this "single-handed gardener" class is not more patronised. Mrs. Vizard was the only entrant, and her collection well deserved the prize. The two trained specimens were also very good, and here Canon Harding repeated his victory of last year.

In the cut blooms the twenty-four variety class only received one entry, Mr. H. Pitt, Abergavenny, who showed a very fair collection. In the class for twelve Mr. Bannerman easily held his own, and a Globe d'Or

was his best bloom here. In the Japanese classes the quality greatly improved, and in the twenty-four keen competition was shown, and Mr. Pitt barely held his own. His best blooms were Madame Carnot, Mr. J. Lewis, and Yellow Carnot. Mr. Wright of Linton was second, and his best blooms were Mrs. C. Blick, Miss Dorothy Shea, and Phœbus. In the twelve class Captain Hopegood, Ross, was easily first, and his best specimens were Graphic, Eva Knowles, and Mr. J. Lewis. In the Anemones it is pleasing to note that an amateur, Mr. C. S. Adams, Monmouth, took first in the open class.

In the amateur classes there were highly creditable groups, as good as any seen since the Society started, and which looked pretty arranged along the corridor. Mr. C. Ward was an easy first. Mr. E. W. Hyam was second, but his group was too high to be effectively displayed. Mr. Cumbley's group was scarcely developed sufficiently. In the trained specimen, Mr. E. W. Hyam took first with a C. H. Curtis, carrying about two dozen blooms, but which was about a fortnight late. The cut bloom classes were again very good. There was little to comment on in the incurred varieties, but the Japanese were fine. Mr. E. W. Hyam had a good board of blooms, the best being Madame Carnot, Silver Cloud, and Vivand Morel. Mr. S. Cumbley's was also good, a Commander Blussett being the best.

In the open classes for cut blooms quality ranged high. For twenty-four incurred varieties, at least eighteen distinct named, not more than two blooms of any variety, first prize Mr. Henry Pitt. Twelve incurred varieties, at least nine distinct named, not more than two blooms of any variety, first prize, Mr. J. M. Bannerman; second, Mr. J. C. Hanbury, Pontypool Park; and third, Mr. A. G. W. Wright, Quarry House, Linton. For twenty-four Japanese varieties, at least eighteen distinct named, not more than two blooms of any variety, first, Mr. Henry Pitt; second, Mr. A. G. W. Wright. For twelve Japanese varieties, at least nine distinct named, not more than two blooms of any variety, first, Mr. H. C. Moffatt, Goodrich Court; and second, Capt. Hopegood, Mount Craig, Ross.

BEDFORD.—NOVEMBER 10TH.

UNDER the auspices of the Bedfordshire Horticultural Improvement Association an excellent autumn show was provided in the Corn Exchange of the county town on Thursday last. Under the care of the two Hon. Secretaries, Messrs. Edward Laxton and W. Kingston, with some members of the Committee, the show was arranged to the best advantage, and all the details were completed in good time, a most important matter in connection with such efforts as these. Both fruits and vegetables were well represented.

As the Society is a young one with limited funds at its disposal only moderate prizes could be offered; it was therefore highly satisfactory to observe the way in which exhibitors had responded, the entries being very numerous and the quality creditable to all concerned. To encourage fresh exhibitors the classes for cut blooms were rendered as easy as possible; thus the chief one was for twenty-four Japanese, in not less than twelve varieties. The result was an excellent display of handsome blooms, Mr. Pestell, gardener to J. S. Wigram, Esq., Elstow, winning the first prize and the silver medal of the Royal Horticultural Society with deep clean well-developed blooms of the following:—Mrs. W. Mease, Australie, Vivand Morel, Pride of Exmouth, Robert Powell, Mrs. H. Cheesman, International, Mons. Chenon de Léché, Modesto, Mrs. G. W. Palmer, Duke of Wellington, and W. Seward. The only defect in this stand was a want of colour, and the second prize collection from Mr. Hayes, gardener to the Marquis of Northampton, Castle Ashby, surpassed the first in that respect, though the blooms were smaller. The third prize was secured by Mr. E. Jones, Bedford, with smaller but clean and bright blooms.

Mr. Hayes had the best twelve Japanese blooms similar in character to those in his other stand. Mr. E. Jones followed, and Mr. Day, gardener to L. C. Higgins, Esq., Castle Close, was third. The class for six Japanese was a good one, the competition keen, and the blooms fine. Mr. E. Jones was first with capital specimens of Australie, Edith Tabor, Mutual Friend, Madame Carnot, Vivand Morel, and Phœbus. With the Japanese an excellent non-competing stand of twelve blooms was shown by Mr. McKinlay, gardener to Earl Cowper, Wrest Park. Incurred blooms were not shown very numerous. Mr. Hayes had the best twelve, comprising Lord Wolseley, Golden Empress, Violet Tomlin, M. Bahuant, Prince Alfred, J. Doughty, Baron Hirsch, Pink Venus, Miss G. Rundle, Prince of Wales, Globe d'Or, and Alfred Lyne. Mr. E. Jones followed in this class.

Non-competing exhibits comprised an extensive and well arranged group of Chrysanthemums, a collection of fruit, and floral decorations from Messrs. Laxton Bros., and a large collection of well-grown vegetables from F. Collins, Esq., Bedford, with several smaller exhibits which cannot be enumerated. The floral decorations, tables, and vases occupied the centre of the hall, and formed a most attractive part of the exhibition. The method of adjudging the awards was by popular vote, every visitor having the privilege of recording an opinion in the matter. It created a good deal of interest, but whether the results were satisfactory to the exhibitors is open to question.

MAINDÉE AND NEWPORT.—NOVEMBER 10TH.

THE tenth annual show of the Maindee and District Chrysanthemum Society was held in the Gymnasium of the Newport Athletic Club on the 10th inst. The Society is to be congratulated on having such a suitable building at disposal, dark corners and bad light being unknown quantities.

The open class for cut blooms went to Mr. S. Dean of the Westgate

Hotel. The best of his blooms were Madame Carnot, Hairy Wonder, and Milano. The incurred section was poorly represented. In the amateur section Mr. H. A. Allen, Penarth, was easily first with undoubtedly the best stand in the show. Phœbus (which obtained the N.C.S. certificate), Mrs. G. W. Palmer, Madame Gustave Henri, M. Ch. de Léché, and Lady Hanham were very fine. Amongst the cottagers' classes there were some creditable blooms shown, and the fever is not likely to cool just yet. Trained and bush plants were exceedingly well shown, and Mr. S. Dean was again well to the fore, and obtained the N.C.S. certificate in this section.

In the open group class Mr. C. D. Phillips scored a distinct success with well grown plants carrying blooms up to exhibition standard. For the miscellaneous group Colonel Wallis was awarded premier honours. Primulas, table plants, and the decorative exhibits were all exceptionally good. The fruit made a most tempting display, and Mr. John Basham of Bassaleg occupied one end of the building with a meritorious exhibit of plants, flowers, and fruit. Taken as a whole it was a most attractive show, and the Committee should feel highly pleased with the results of their efforts.

WALTON AND WEYBRIDGE.—NOVEMBER 10TH.

THIS old-established Society held its annual exhibition in the Public Hall, Walton, on the 10th inst. The Show was quite up to the usual standard, and in many classes an improvement was noticeable. Cut blooms were the main feature, and in both sections were splendidly shown. The principal open class, in which a challenge cup, valued 10 guineas, and 3 guineas in money, was offered, was for forty-eight, distinct, thirty-two Japanese, sixteen incurred, the incurred blooms to be arranged in the front row. This was a decided improvement, and had a much better effect than when the blooms are on separate boards.

In the open challenge cup class, Mr. Jenks, gardener to Edgar Bruce, Esq., Oatlands, well won the coveted prize with a really fine exhibit. His best Japanese were Simplicity, Modesto, Dorothy Fowler, Australie, Mrs. Maling Grant, Werther, Pride of Exmouth, Mons. Chenon de Léché, and Robert Powell. Incurred: Madame Ferlat, Golden Empress, W. Tunnington, Duchess of Fife, Lord Hawke, Mrs. J. Eadie, and Charles Curtis. Mr. Lock, gardener to C. S. Eady, Esq., Q.C., Oatlands, was a fair second.

For thirty-six blooms, distinct, eighteen incurred, eighteen Japanese, Mr. Jenks gained the first prize with a splendid stand, comprising Werther, Phœbus, Simplicity, Mrs. Barks, Souvenir de Madame Rosette, and Australie; with good incurred of Charles Curtis, John Salter, Bonnie Dundee, Miss Haggas, and Madame Darier. Mr. Caryer was an exceedingly close second, and Mr. Lock a good third.

In the class for twelve incurred, distinct, Mr. Caryer was well first with a heavy stand, in which W. Tunnington, Robert Petfield, Mad. Darier, Empress of India, and Alfred Salter were the best; the second prize went to Mr. Felgate, and the third to Mr. Lock. Nine stands were staged in the class for the best twelve large flowering blooms, distinct, with foliage. Mr. Hicks, gardener to A. Cushney, Esq., Cobham, was first with a splendid stand; Mr. Caryer was a close second, and Mr. Cook third. For twelve Anemones Mr. Jenks was first, Mr. Prothers second, and Mr. Pallant third.

For twelve Japanese, distinct, Mr. Cook was first with a fresh stand. He had fine blooms of Mad. Carnot, Mdle. T. Rey, Lady Ridgway, Australie, Mrs. Palmer, and Lady Hanham. Mr. Watford, gardener to A. J. Rhodes, Esq., Weybridge, was a close second, and Mr. Caryer a good third. Six Japanese, distinct, Mr. Pallant was an easy first; Mr. Page, gardener to A. J. Barr, Esq., Walton, second; and Mr. Prothers third. In the class for six incurred, one variety, Mr. Jenks was well first with a fine stand of Charles Curtis; Mr. Felgate second with Princess of Wales; and Mr. Watford third with Duchess of Fife. Six Japanese, one variety, Mr. Watford took the first prize with Mad. Carnot; Mr. Swan second, and Mr. Felgate third.

In the class for six dwarf trained specimens Mr. Swan, gardener to G. K. Purchase, Esq., Weybridge, was the only exhibitor, and was justly awarded the first prize with a splendid half-dozen. Floral stands, vases, bouquets furnished an attractive display. Mr. F. Hopkins, Hurst Grove Nursery, Walton, had a good display of Dahlias and Tea Roses. Fruit was well shown. Mr. G. Masters, the Secretary, and the Committee carried out all arrangements in a most excellent manner.

WINDSOR.—NOVEMBER 10TH.

THE seventh annual exhibition, held in the Albert Institute, was the best seen here. A pleasing improvement was noticed in the exhibits in many classes, making it one of the best all-round shows in the provinces. Mr. Finch, Hon. Secretary, and the Committee deserve all praise for the satisfactory arrangements made.

Groups of Chrysanthemums made the leading feature, six competing in the open class for the challenge cup offered, making a bold display on both sides of the large hall. Mr. W. Cole, gardener to Mrs. E. B. Foster, easily secured the coveted award with dwarf plants, carrying good blooms, arranged almost faultlessly. Mr. W. Davis, gardener to Henry Adams, Esq., was a good second; Mr. A. Gillies, gardener to Sir Robert Harvey, third. Equally keen was the competition in a similar class for amateurs. Mr. H. Edwards, 32, Albert Street, Clewer, Windsor, again won the coveted award with a most creditable exhibit. Mr. J. R. Stubling was second, and Dr. Wyborn third.

Cut blooms are generally staged both numerous and well. For twenty-four Japanese, in eighteen varieties, Mr. Sturt, gardener to N. L. Cohen, Esq., Englefield Green, Egham, was an easy first with heavy

bright examples of the leading varieties. Mr. Lane, The Gardens, King's Ride, Ascot, second; and Mr. Fulford, gardener to F. D. Lambert, Esq., third. For twenty-four incurved Mr. Lane secured the coveted award with delightfully fresh well finished blooms, if somewhat small. Mr. Sturt, and Mr. D. M. Hayler, gardener to Mrs. Langworthy, were second and third respectively.

A challenge cup was offered in the class for twelve incurved and the same number Japanese. Mr. Lane was again successful with good examples of Empress of India, Golden Queen of England, Mrs. R. C. Kingston, Duchess of Fife, Madame Ferlat, and R. Petfield in the incurved. The chief Japanese were Modesto, Charles Davis, Madame Gustave Henri, Vivian Morel, Oceana, Lady Hanham, Joseph Chamberlain, Mary Molyneux, Hairy Wonder, and Pride of Madford. Mr. Sturt followed closely.

In the class for twelve incurved, Mr. F. J. Paul, gardener to Mrs. Bowring, was deservedly placed first with neat examples of the true Chinese type. Mr. W. Hull, gardener to Captain Farwell, second. Six competed in the class for twelve Japanese, making a pleasing display.

The N.C.S. certificates in the open and amateur classes were awarded to Mr. Fulford, gardener to F. D. Lambert, Esq., and Mr. A. Sainty, for premier blooms in their respective sections of open and amateur classes, both staging creditable examples of Madame Carnot. Fruit and vegetables made quite a show in themselves. Mr. F. H. Beney, gardener to Lady Mary Currie, Clewer Hill House, had a most interesting group of Nerine Fothergilli major, relieved with a groundwork of Adiantum, which was much admired.

ALDERLEY EDGE AND WILMSLOW.—NOVEMBER 11TH.

THE enterprising Committee of the above Society is to be congratulated on the success which attends its efforts in trying to place a show of general excellence before the public. This year, though not so largely contested as on former occasions, it was of excellent quality, some of the blooms being very good, more especially the first prize stand staged by Mr. Mottram, gardener to H. Heenan, Esq., who also wins the fine silver cup, which now becomes his own property. Bouquets and other floral work were more than tastefully done, and groups were very choice. Fruit was of capital quality.

The leading class for blooms was for twelve incurved and twelve Japanese, the prize falling to Mr. G. Mottram, gardener to H. Heenan, Esq., with beautifully coloured blooms of Edith Tabor, Chas. Davis, Graphic, Australie, E. Molyneux, Madame Gustave Henri, Mrs. C. H. Payne, Australian Gold, Vivian Morel, Mrs. G. W. Palmer, Souvenir de Petite Amie, Mons. Gruyer, Lord Alcester, Baron Hirsch, C. H. Curtis, Empress of India, Globe d'Or, Jno. Doughty, J. Agate, Golden Empress, Lucy Kendall, Lady Dartmouth, Madame Darier, and Queen of England. Mr. Meikle, gardener to Colonel Dixon, was placed second. For twelve Japanese Mr. T. Derbyshire, gardener to J. Whitehead, Esq., won with fresh blooms of Ella Curtis, Madame Gustave Henri, Eva Knowles, Vivian Morel, and Pride of Madford. Mr. A. Trail, gardener to R. B. Lingard Monk, Esq., was second, and Mr. J. Meikle third.

For twelve incurved Mr. A. Trail had a heavy stand, Globe d'Or, Lady Isobel (premier incurved), Duchess of Fife, C. H. Curtis, and Baron Hirsch alike being fine. Mr. Meikle was second.

In the district classes Mr. A. Trail was an easy first for eighteen miscellaneous, Edith Tabor, Simplicity, Lady Isobel, Madame Gustave Henri, and C. H. Curtis being really good. Messrs. J. Wood, gardener to E. Aston, Esq.; and D. Ellam, gardener to Mrs. Turner, were the other prizewinners.

The groups of Chrysanthemums and foliage were displayed to much advantage, Mr. A. Trail showing more than average taste with a judicious attention to tone throughout; Mr. T. E. Johnson was a good runner up.

Special certificates were granted to the President, Dr. Hodgkinson, for a charming group of Orchids and plants; also to Mr. Moss for an attractive display of fruits, bottled and otherwise, choicely interspersed with foliage plants. The Committee is fortunate in having such a gentleman as Mr. G. Leadbeater, jun., for Secretary, his kindness to everyone being worthy of all praise.

BRADFORD.—NOVEMBER 11TH AND 12TH.

THE twelfth exhibition of this Society was held in St. George's Hall on the above dates, and proved to be superior to any previous one. Cut flowers have always been shown here of a very high quality, but the leading stands this year, both incurved and Japanese, could scarcely be surpassed, whilst the groups were far in advance of any previous efforts.

In the open class for twenty-four Japanese Mr. Midgley, gardener to Mrs. Mason, Bankfield, Bingley, showed a superb stand as follows:—Sunstone, Madame Gustave Henri, Van den Heede, Madame Carnot, M. H. Payne, Phœbus, Etoile de Lyon, Eva Knowles, M. G. Bruant, Lord Brooke, Pride of Exmouth, President Nonin, Modesto, Chenon de Léché, Lady E. Clarke, R. Powell, Miss Rita Schroeter, and Lady Ridgway. Second, Mr. George Haigh, gardener to W. H. Tate, Esq., Wootton, Liverpool, and third Mr. G. Burden, gardener to G. B. Cockburn, Esq., Lingdale Lodge, Birkenhead.

For twenty-four incurved, Mr. Geo. Burden won premier position with fine, fresh, solid blooms, in the pink of condition. The varieties were: Lady Isobel, Dorothy Foster, John Lambert, Mrs. C. W. Egan, Ma Perfection, C. H. Curtis, Madame Ferlat, Globe d'Or, Mrs. R. C. Kingston, Mons. Desblanc, Empress of India, Duchess of Fife, Topaze Orientale, Miss V. Tomlin, Queen of England, Robert Petfield, Jeanne d'Arc, and George Haigh. Mr. G. Haigh was second, and Mr. G. Jarvis, gardener to Mrs. Whittaker, Cliffe House, Hessle, third. For twelve

Japanese, Mr. Midgley again scored heavily against Messrs. H. Clarke and Son, Rodley, and G. Burden, who followed in the order given. In the class for twelve incurved, Mr. Burden was again successful, Mr. G. Haigh was second, and Messrs. H. Clarke & Sons third. Mr. Midgley was first for six Anemones, Mr. J. Brooke second, Messrs. Henry Clarke & Sons, third. For six Japanese, any one variety, Mr. Midgley won premier position with Richard Dean; Messrs. Brooke and Clarke & Son were second and third. In the local cut bloom class, Mr. Midgley was again successful for twelve Japanese, winning the local challenge cup. Messrs. H. Clarke and Sons were second, and Mr. J. Thornton, Drighlington, third. Mr. Thornton was first in a very strong class of six exhibitors for twelve incurved. Messrs. Clark & Sons second, Mr. T. Bird, Windhill, Shipley, third.

Groups of Chrysanthemums, four in number, down the central part of the hall made an imposing show. Dr. Smith, Granville House, Frizinghall, secured the first prize and silver cup with a charming group. Mr. L. Shearman, Undercliffe Cemetery, was second; and Mr. G. W. Bell, gardener to J. Rhodes, Esq., J.P., Bolton Royd, third. For six specimen plants Mr. Thos. Heaton was first; Mr. Moorby, gardener to Mrs. Knowles, Moorhead, Shipley, winning all along the line for single specimens. Mr. Midgley won first prize for Grapes, both black and white, with fine examples of Mrs. Pince and Muscat of Alexandria respectively.

ECCLES.—NOVEMBER 11TH AND 12TH.

NOTHING could have been more successful, either from point of quality of exhibits, or from the generous support accorded to the efforts of the Committee by the public of Eccles and the district on the occasion of the annual Show held at the Eccles Town Hall on the above dates. Mr. H. Huber, the Secretary, is more than alive to the fact that to make a show successful hard work must follow, and in this he seems to use quite a master hand, bringing everything on the day of issue to a most successful climax. Very numerous are the classes in the schedule, indeed far too much so for us to deal with all, so we must content ourselves with taking a few of the leading features of a really excellent Show.

In the class for twelve Japanese and twelve incurved, to which was added a silver cup valued at 6 guineas, Mr. J. Kirkman, gardener to J. Stanning, Esq., Leyland, was a somewhat easy first, beating last year's winner, Mr. C. Osborne, gardener to H. Tate, Esq., Allerton Beeches, with a stand that was faultless. It comprised Mrs. W. H. Lees, Mrs. C. H. Payne, G. W. Palmer, Madame G. Bruant, Edith Tabor, Dorothy Shea, Mrs. J. Lewis, Phœbus, Australie, Lady Ellen Clark, Belle Mauve, Madame Gustave Henri, Perle Dauphinoise, Wm. Tunnington, C. H. Curtis, Duchess of Fife, Madame Ferlat, Major Bonaffon, Globe d'Or, Miss M. A. Haggas, A. Salter, Golden Empress, and Miss Airdrie. Mr. Osborne was second, and Mr. R. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby, a good third.

In the class for thirty-six miscellaneous Mr. Carling had a very select stand, Mr. Pinnington being second. Mr. Carling was also successful for twelve incurved, followed by Mr. Osborne. Mr. Kirkman was again a splendid first with twelve Japanese, Messrs. Osborne and Carling following. For half the number of each Messrs. Osborne, Carling, and Pinnington won, all having excellent exhibits, the names of which were similar to the first prize stand. Mr. T. Mulloy, gardener to Thos. Harper, Esq., Fallowfield, won for twelve incurved, also for several other cut bloom classes, whilst in a half-circular group of plants and other splendidly grown specimens he was well in advance. Mr. W. Powell was successful in other classes. For the group of miscellaneous plants Mr. Elkin, gardener to T. Agnew, Esq., and Mr. Upjohn, gardener to the Earl of Ellesmere, Worsley Hall, again contested, the former winning. Mr. Huber secured the gold medal for three incurved and three Japanese; Mr. T. Morton and Mr. E. J. Chambers winning the silver cups presented by H. Lightbown, Esq., J.P., Pendleton, and B. Armitage, Esq., J.P., Chomlea, Pendleton, respectively. Other chief prizewinners were Messrs. Woolans, Bryan, Huber, Wroe, Chambers, Atherton, Crawshaw, all with blooms much better than usual. Bouquets and floral designs were up to the superior standard—in fact, it would not be possible to see them improved upon.

HUDDERSFIELD.—NOVEMBER 11TH AND 12TH.

FOR their spirited enterprise the Committee of this Society deserves a greater measure of financial success than has hitherto been accorded to them. Two years ago it was determined to resuscitate the Show, after several years suspended animation, and notwithstanding a fine show contributed by local growers, the financial returns scarcely covered expenses. After another interval the Committee again made a grand effort, which we trust will prove satisfactory and encouraging to continue the Show, which of itself should be a boon to the residents of a populous manufacturing district. The Show was held in the large Concert Hall of the Municipal Buildings, and was superior to any of those preceding it.

The cut blooms in the open classes were fine. Mr. T. Gee, Liverpool, secured the premier honours for twenty-four Japanese, distinct varieties, as follows—Mrs. H. Payne, Madame X Rays Jouvin, R. Dean, Phœbus, Australie, Rose Wynne, Pride of Madford, Madame G. Bruant, Ed. Tabor, Eva Knowles, International, E. Molyneux, Chas. Davis, Mrs. G. Palmer, Simplicity, Mons. Chenon de Léché, Vivian Morel, Modesto, Yellow Carnot, Mutual Friend, G. C. Schwabe, N.C.S. Jubilee, Lady Hanham, and J. Seward. Mr. Geo. Burden, gardener to G. B. Cockburn, Esq., Birkenhead, was second, and T. Hirst, Esq., Meltham Hall, third.

For twenty-four incurved, not less than eighteen varieties, Mr. Geo. Burden was first with good blooms of Lady Isobel, Mrs. W. C. Egan,

Madame Ferlat, Globe d'Or, Empress of India, Dorothy Foster, Duchess of Fife, Chas. Curtis, Queen of England, Ma Perfection, J. Lambert, Mons. Desblanc, Mrs. R. C. Kingston, Princess of Wales, Madame Darier, Miss Violet Tomlin, Topaze Orientale, Geo. Haigh, and Jeanne d'Arc. Mr. Gee was second, and Mr. Hirst third.

The local classes for cut blooms were well filled, and the competition keen. Mrs. Waddington, Newlands, Brighouse, was first for eighteen Japanese, Mr. Hirst second, and C. Brooke, Esq., Meltham, third. For eighteen incurved, Mr. Hirst was first, and Mr. J. Hey, Armitage Bridge, second. For twelve Japanese, eight exhibitors competed, the prizes falling to Mrs. Waddington, Hanson Omerod, Esq., Boothroyd Park, Rastrick, and Mr. H. Beardsell, in the order named. For twelve incurved Mr. Brook was first, and Mr. Hey second. For the best six white Japanese, Mrs. Waddington secured first prize with Madame Gustave Henri, Lady Byron, and Emily Silsbury. For the best six blooms of any one variety, Mr. Hirst was first with Chas. Davis, and Mr. H. H. Bottom, Paddock, second.

Groups of Chrysanthemums numbered three. The Judges awarded the first prize to T. H. Ramsden, Esq., Golcar, for a free arrangement. The second prize went to Mr. Hatch, gardener to J. F. Brigg, Esq., Greenhead Hall, whose plants were well grown. Chrysanthemum plants and miscellaneous exhibits made a fine display.

LEICESTER.—NOVEMBER 11TH AND 12TH.

THIS Show, which was held in the Temperance Hall on the above dates, was a pronounced success, and was generally acknowledged to be the best held in Leicester for some years. Cut blooms of the Japanese section, with Apples and Pears, were the strong features of the Exhibition. 1068 cut blooms were staged, 200 dishes of Apples and Pears, and an additional 120 not for competition. Groups of plants, which usually prove a great attraction, were conspicuous by their absence, and it is to be hoped that efforts will be made another season to remedy this defect. The Society has an energetic Secretary in Mr. G. Lawson and a numerous Committee, and their combined efforts will doubtless still further develop the work of the Leicester Chrysanthemum Society, as this prosperous town should in time become one of the great centres of Chrysanthemum growing.

Five competitors entered the fray in the class for eighteen incurved in not less than fifteen distinct varieties. The premier award was well won by the Rev. B. Bird, Walton Rectory. A few of the blooms were rather rough, but others very fine, the varieties being C. H. Curtis, Mrs. R. C. Kingston, Globe d'Or, Miss Violet Foster, Lord Alcester, Globe d'Or (grand), Mons. R. Bahuant, Baron Hirsch, Major Bonnaffon, Prince Alfred, Empress of India, Princess of Wales, Robert Petfield, Madame Darier, and Miss M. A. Haggas. The second prize went to Mr. J. Smith, Loughborough. Mr. J. Holden, Hinckley, secured the third award. The Rev. B. Bird was also successful in the class for twelve incurved, distinct, showing varieties similar to those in the previous class. F. C. Shenton, Esq., Sileby House, was placed second; and Mr. H. Rogers, Leicester, third. In the class for six incurved twelve stands were tabled, and the Judges had much difficulty in making their awards. The winner proved to be F. Shenton, Esq., who had very fine blooms, but two of them were not quite up in the centre. The Rev. B. Bird was second; and Mr. Holden third.

The class for eighteen Japanese was a strong one, and contained some of the best blooms in the Show. Mr. J. Smith was a good first with heavy, fresh coloured flowers, no weak bloom being noticeable among them. The varieties were Mutual Friend (grand), Madame Bergier, Mrs. Weeks, Australie, Ella Curtis (very fine), Graphic, Lady Ridgway, Phœbus, Dorothy Seward, Mrs. Lewis, Eva Knowles, Pride of Madford, Vivian Morel, Mrs. Palmer, C. B. Haywood, Werthier (deep and full), Lady Hanham, and Madame G. Bruant. The Rev. B. Bird received the second award, and Mr. Roger the third. For twelve Japanese Mr. Smith was again to the front with weighty flowers of good varieties, the Rev. B. Bird and Mr. Rogers followed in the order named. Mr. Smith also won for six Japanese, Mr. W. Whait, gardener to G. Coles, Esq., being second, and Mr. Rogers third. For six blooms, to be shown on long stems, Mr. A. Bell, Holmdale, Stonegate, Leicester, was a good first with very fine and beautifully coloured flowers; Mr. Rogers was second, and Mr. G. Brown, gardener to H. Gee, Esq., Knighton Frith, third. Mrs. Carnall, Leicester, won the first prize for table decorations with a table exhibit, Mrs. Bird being a close second, and Mr. Bell third.

Mr. G. Boyes, Aylestone Park Nurseries, Leicester, exhibited a beautiful collection of winter flowering Carnations in pots. Mr. H. Dunkin, Victoria Nurseries, Leicester, arranged an effective group of Chrysanthemums in tall vases, which included some of the best new varieties. Mr. R. Pringle, Leicester, staged a collection of Apples, and some fine Leeks, and Mrs. Carnall exhibited a handsome wreath. To each of the above awards of merit were given.

SHEFFIELD.—NOVEMBER 11TH AND 12TH.

ON the above dates the Sheffield Chrysanthemum Society held the nineteenth annual Show. A slightly decreased entry list was amply compensated for in the higher quality of the exhibits. The enterprising Committee is to be congratulated on its successful efforts in the introduction of new features of interest. Last year prizes were offered for decorated mantels and firegrates, which proved to be a fine feature, at once novel and useful in developing the art of indoor decorations. This year the competition included six examples all greatly in advance of last year's exhibits.

In the open cut bloom class for twenty-four incurved, Mr. C. Crooks,

gardener to the Dowager Lady Hindlip, Droitwich, was deservedly placed first with a heavy stand of fresh, solid, and highly coloured blooms, as follows—Duchess of Fife, C. Curtis, Lord Alcester, Topaze Orientale, Dorothy Foster, Mrs. Coleman, Robt. Petfield, J. Lambert, Madame Ferlat, W. Tunnington, Queen of England, J. Agate, Lady Isobel, Empress of India, Violet Foster, Princess of Wales, Golden Empress, J. Lambert, and Jeanne d'Arc. Mr. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, was second. Mr. G. Alderman, gardener to J. D. Ellis, Esq., Worksop, was third.

For twenty-four Japanese Mr. Crooks was again first, Mr. Goodacre second, and Mr. Alderman third. Twelve incurved, Mr. Crooks again won with Duchess of Fife, Golden Empress, Jeanne d'Arc, Chas. Curtis, Dorothy Foster, Miss Haggas, J. Agate, Lord Alcester, Princess of Wales, Topaze Orientale, Lady Isobel, and Brookleigh Gem. Mr. Goodacre second. For six incurved blooms Mr. C. Scott, gardener to J. Colley, Esq., Worksop, was first. Anemone flowered were fine, Mr. G. Stable, gardener to Miss Wake, Osgatborpe, Sheffield, first; Mr. H. Cooke second.

The local classes for cut blooms were capital. For twelve incurved Mr. C. Scott won with a fine even stand of well-finished blooms, including Madame Ferlat, J. Lambert, Baron Hirsch, Perle Dauphinoise, J. Agate, Mrs. R. C. Kingston, Ma Perfection, Violet Foster, Jeanne d'Arc, Lady Isobel, Duchess of Fife, and Nil Desperandum. Mr. Alderman was second, and Mr. G. Stubbs third. Twelve Japanese, Mr. Alderman was first with fine examples of Australie, Phœbus, Chenon de Léché, Etoile de Lyon, Milano, Modesto, J. Seward, Emily Silsbury, Prefet Robert, Mrs. H. Payne, M. Panckoucke, Lady Hanham. Mr. T. Nelson was second, and Mr. Scott third. Amateurs' and cottagers' cut blooms at Sheffield are always very good, and the prizewinners in this section were exceptionally fine. The winning stands of Japanese shown by Dr. W. W. Barham was equal to the open class blooms, and the incurved winning stands exhibited by Mr. Willgoose were fine.

Groups of Chrysanthemums interspersed with foliage plants were decidedly better than at any previous show of this Society. Mr. T. Morton, gardener to J. G. Lowood, Esq., Glossop Road, Sheffield, was first with a tasteful arrangement; and Mr. E. Austin, gardener to Mr. L. Brett, Chesterfield, second. In the smaller groups arranged by amateurs Mr. B. Glossop was first, Mr. W. Willgoose second, and Mr. T. Lygo third.

Amongst trade exhibits the group exhibited by Mr. S. Seagrave filled over 300 square feet with the choicest plants. Messrs. Martindale sent Carnations, bouquets, wreaths, and crosses. Messrs. Crossland Bros. and Mr. Hiram Shaw had each bright and effective groups of decorative plants. Mr. N. L. S. Nelson, Catcliffe Nurseries, Rotherham, showed Apples of fine quality, and Messrs. Wells & Co., Earlswood, exhibited a stand of new Chrysanthemums, the best being Nellie Pockett, John Pockett, Celeste Falconette, Mrs. White Popham and Lord Ludlow.

GUILDFORD.

THE show here was a marked advance on that of last year, the competition being greater. There were no less than seven Chrysanthemum plant groups, the best, built in the ordinary somewhat stiff sloping style, but the plants dwarf and the blooms excellent, was set up by Mr. Seabrooke, gardener to R. W. Stevens, Esq., of Woking. Only Japanese varieties were staged. Messrs. Hart & Sons, Guildford, were second, having also excellent material. In the cut bloom classes Mr. Paddon, gardener to Col. H. Ricardo, Bramley Park, was in fine form, taking first place with eighteen incurved. He had very fine Madame Ferlat, Major Bonnaffon, C. H. Curtis, Austin Cannell, S. Agate, Robt. Cannell, Robt. Petfield, Mrs. R. C. Kingston, Miss M. A. Haggas, and others. There was no card to the second collection, and Mr. Gaymer, Waverley Abbey, Farnham, was placed third.

In the class for twelve incurved blooms, Mr. Paddon was again first, and Mr. Thorne, gardener to R. Garton, Esq., Worplesdon, second. With twenty-four Japanese Mr. Paddon again came first, having superb blooms of Mrs. Mease, Mrs. W. H. Lees, Oceana, Lady Hanham, Phœbus, J. Chamberlain, Simplicity, Australie, Charles Davis, Pride of Madford, and others. Mr. J. Prewett, gardener to C. A. Pearson, Esq., Frensham, was second. His stand included good Thos. Wilkins, Boule d'Or, Lady Ridgway, Madame Carnot, Edith Tabor, and International. Mr. B. Nash, gardener to J. Wellesley, Esq., Woking, was third. Again Mr. Paddon was first with twelve blooms, having very fine E. Molyneux, Australie, Ethel Addison, Lady Hanham, General Roberts, Phœbus, Mrs. Weeks, and Oceana. Mr. Turvey, gardener to Sir Richard Webster, M.P., Cranleigh, was second, having in his box Madame Gustave Henri, Madame G. Bruant, Mrs. G. W. Palmer, Phœbus, and Pride of Madford (good). Mr. Brown, gardener to H. W. Sillam, Esq., Woking, was third.

The best collection of four dishes of fruit came from Mr. Osman, Ottershaw Park, Chertsey, having Alicante and Mrs. Pearson Grapes, Apples and Pears. Mr. Prewett was second. With white Grapes, Mr. Belcher, gardener to Sir E. H. Carbutt, Cranleigh, was first with very good samples, Mr. Osman coming second. With black Messrs. Hart and Sons were first with very nice Alicante; Mr. Belcher coming second; and Mr. Martin, gardener to Lieut.-Col. Tredcroft, Merrow, third. Mr. Blake, gardener to the Earl of Onslow, Clandon Park, had the best Tomatoes. There was a large competition in the Apple classes. Very fine flats, each holding nine kinds of vegetables, were shown, Mr. Tomlin, gardener to Mrs. Goldingham, Ottershaw, coming first, and Mr. Blake second, both having superior samples. Messrs. Hart & Sons and Messrs. W. Pullen & Sons showed some very beautiful honorary exhibits, making very attractive features.

THE YOUNG GARDENERS' DOMAIN.

THE KALOSANTHES.

THE Kalosantes is a plant which is not grown nearly so much as its merits deserve. Its cultivation does not require great skill—indeed, it can be grown by almost anyone. It is most useful for conservatory work, and in a group of flowering plants for exhibition it is a valuable addition. Coming in at a time when the majority of flowering plants are past their best, its sweet-scented showy blooms are highly appreciated. To propagate by cuttings these should be inserted in small 60's about the middle of January. The best place to root them is on a shelf near the glass in a warm house. In choosing the cuttings the tops make the best plants, although the stems root freely, and may be inserted if enough tops cannot be obtained. The cuttings should be about 4 inches long when inserted.

Before the plants have filled their pots with roots they must be shifted into 5-inch pots, removing the tops, to cause them to break as soon as they are established. It is much more convenient if a warm pit is available. Keep it exclusively for the Kalosantes, and let them occupy the same quarters all the time; but if not, and they are rooted and grown in an intermediate house, as soon as all danger of frost is passed they should be removed to a cold frame. Let them stand on a good bottom of ashes, to prevent worms getting into the pots, as there is nothing they dislike so much. When the roots have taken hold of their new soil they should be potted into 7-inch pots, and when established hardened, and placed outside in such a position that they are sheltered as much as possible from heavy rains. Those required for large plants will be best stopped a second time.

To insure a good and regular head of bloom the plants must have a clear season's growth, and then all the shoots will flower. Plenty of air and sun are essential for their successful culture, and the plants must be kept carefully staked at all times, as they are very liable to break. They should be removed to their winter quarters before any frost comes, an airy house, with just enough heat to keep the frost out, being a good place. Water must be given sparingly, only just enough to keep the growths from shrivelling. The soil best suited for Kalosantes is one composed of rich fibrous loam and well-decomposed cow manure, with a good sprinkling of sand and enough charcoal to keep the whole sweet. Special attention should be paid to the crocking, so as to prevent the drainage becoming stopped and the soil sour; and also the over use of the water pot.—S. S.



FRUIT FORCING.

Peaches and Nectarines.—*Earliest Forced House.*—The trees must now be started to ripen the fruit early in May, when the varieties consist of Hale's Early, Stirling Castle or Royal George, Crimson Galande, and Dymond or Grosse Mignonne Peaches, with Lord Napier, Stanwick Elruge, Humboldt, and Dryden Nectarines. The very early varieties, Alexander, or Waterloo, and Early Louise Peaches, with Cardinal, Advance, and Early Rivers Nectarines, need not be started until the new year to give ripe fruit at the time mentioned. The trees should be thoroughly examined for brown aphids, and if there be the least trace of the pest the affected parts should be brushed over the same way as the growths with tobacco water, and the house thoroughly fumigated with tobacco paper, or vaporised with nicotine essence on two consecutive evenings. If the lights have been off the border will have been thoroughly moistened down to the drainage, but there must not be any mistake about this, for it is important that the trees have sufficient water at the roots; therefore if any doubt exists as to the moisture of the soil, give a thorough supply of water or liquid manure to benefit weakly trees.

Fire heat need only be employed at night to exclude frost, and by day to insure a temperature of 50°. Commence at 50°, and close the house at that temperature, ventilating fully without lowering the heat below 50° in the daytime. Syringe the trees in the morning and afternoon of fine days until the buds begin to show colour, but then, and on dull days prior thereto, discontinue the syringing of the trees, yet maintain a suitable moisture in the atmosphere by damping the paths and borders on bright mornings and fine afternoons, admitting a little air constantly at the top of the house. Aim at bringing the trees on gradually, to secure well-developed blossoms.

Houses Started at the New Year.—Trees started early in the year for affording ripe fruit at the end of April or early in May if of very early varieties, or at the end of May or early in June when of second early or midseason sorts, must now be kept as cool as possible. This is best effected by keeping the roof-lights off the house until the time of starting. The severest weather does not injure wood or buds, and the trees are insured complete rest, so far as it is practicable in our climate. The lights, however, should be replaced about a fortnight in advance of starting the house, and they must be cleansed, repaired, and, if necessary, painted. Wash the woodwork with a disinfecting soapy solution, and limewash the walls. Pruning must be attended to, removing wood not required, and shortening long growths to insure needful furnishing of the

space with bearing wood. Brown scale is often troublesome. It yields to hot water at 140° to 160°, but it must not be used excessively. We use a solution of 2 ozs. each caustic soda (98 per cent. purity) and commercial potash (pearlash) to 2 gallons of water, and apply with a brush at a temperature of 140°. It kills scale—even the eggs, only get it under the dead scales—and hibernating red spider or its eggs. Frost also has a destructive effect on Peach scale, trees exposed in the rest season being seldom infested with it; but the pest is often introduced from plant houses by persons in charge of ventilation.

Secure the trees to the trellis, allowing plenty of room in the ties for the swelling of the branches. Remove any loose inert surface soil, supplying fresh turfy loam not more than 2 inches thick, and top-dressing with a mixture of equal parts bone superphosphate and double sulphate of potash and magnesia, using 4 ozs. per square yard, scratching in with a fork. This may be supplemented by a similar dressing as soon as the fruit has set and commenced swelling. Defer mulching with short manure until the trees are somewhat in growth. Keep houses with fixed roof-lights as cool as possible, ventilating to the fullest extent in all but very severe weather.

Houses Started in February.—The trees forced from the beginning of that month ripen their fruit at the end of June or early in July, and will now require similar treatment to that advised for those in the house to be started at the new year. The roof-lights are much better off, but it is a common practice to use houses of this kind for plants requiring protection from frost, especially Chrysanthemums. It is not a good practice, for the Peach trees are deprived of that rest essential to success, and it often excites the trees prematurely, then, followed by a check through throwing the house open when the Chrysanthemums are over, the buds frequently fall. It is also a bad system to leave houses and trees unattended after the leaves fall until the absolute necessity arises for starting the trees, for they are never banded so safely as when the wood contains least sap, which is as soon as the leaves have fallen, and the delay is taken advantage of by red spider, thrips, and other pests to find safe retreats. The house, therefore, should be thoroughly cleansed, the trees pruned, readjusted to the trellis, and every needful operation performed, so that a start can be confidently made when the time arrives.

Houses Started in March.—The trees in these structures, and closed early in March, will ripen their fruit about the middle of July if brought forward by artificial heat; but where warmth is only given when the trees are in blossom, and to secure the safety of the young fruit from frost, the fruit will not ripen until August if kept cool. The trees are now leafless, and should undergo the operations advised for those in the early house. Remove the roof-lights, empty the hot-water pipes, and leave the lights off until the end of February. The trees will gain by the process, and the soil be well watered. If the lights are fixed the ventilators should be thrown open to the fullest extent.

THE BEE-KEEPER.

COMMENCING BEE-KEEPING.

I AM about to commence bee-keeping, and I shall be glad if you can let me know where I could get the best information on the subject.—BOB.

Your correspondent cannot do better than study the various articles on bee-keeping as they appear weekly in the *Journal of Horticulture*, and if in any difficulty apply for information, which will be freely given through the same source. It may be encouraging to "Bob" to know that the advice here given is the result of nearly twenty years' practical management of a large apiary from which tons of honey have been distributed throughout the country, and where previously none was collected owing to the absence of bees.

The first thing to decide in starting bee-keeping is the class of hive most suited to the district, and whether run honey or sections of honey in the comb is desired, or both. Though straw skeps are somewhat out of date as regards obtaining a surplus, they are useful to a beginner who is anxious to obtain early swarms. For this reason, we would recommend a start to be made with a few colonies in straw skeps. They may be obtained any time during the winter; or, if the selection is left until the spring, stocks that are then in good condition will probably throw off swarms at an early date, which may be placed on full sheets of foundation in a frame hive. There would thus be less risk than if a commencement were made before the winter was over.

If there are several stocks of bees to select from, choose those that are strong in bees and sealed stores; a good stock in a straw skep should at this season weigh at least 20 lbs. In making a selection it is advisable to remove the hive from its stand; a puff of smoke blown in at the entrance will prevent the bees being disturbed. Turn up the hive and select those that have good straight combs, as they will be much better for transferring into a frame hive if required for that purpose after the swarming season is over.

It is important that the colony should be headed by a young fertile queen, and it will be necessary to know whether it is a cast,

first swarm, or an old stock. If the former, it will be headed by a young queen; the combs, too, will be new, and not so dark-coloured as the two latter; for these reasons we should prefer a east to either of the others. A first swarm will in all probability be headed by an old queen, which will be next to useless another season for egg production, and an old stock, if it threw off a swarm the previous year, would be headed by a young queen; but the combs will be black and clodded with old pollen, which will be useless.

THE MODERN BAR-FRAME HIVE.

We do not say which is the best hive, as it is a matter of opinion, whether a hive holding ten frames, or one having space for double that number of frames, is the most suitable. It is, however, well to bear in mind the fact that in this country it is not often that the honey flow from any one source lasts more than three weeks, and for this reason we prefer a hive holding ten standard frames. Not that we think an inch or two more or less in length or depth of the frame would make any difference in the amount of honey obtained; but as the standard frame is now generally recognised throughout the country, they may be obtained from any dealer of bee appliances. Whatever hive is selected it is advisable to have all the hives in the apiary of the same dimensions, and the frames being also of one standard size, they will be interchangeable from one hive to the other.

The advantage, too, of having all the hives of the same size is the ready way in which they may be doubled, or utilised in various ways in obtaining a surplus. If run honey is desired we prefer this plan; or if comb honey in sections is preferred, strong colonies may be built up in the same manner.—AN ENGLISH BEE-KEEPER.



All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Rose Pamphlets (A. W.).—Those referred to on page 357 can be obtained from Mr. Edward Mawley, Rosebank, Berkhamsted.

Book on Vine Culture (A. T.).—The most recent is Barron's "Vines and Vine Culture," well illustrated on practical matters, and with several plates of the best or most approved varieties of Grapes. It can be had from the publisher, 12, Mitre Court Chambers, Fleet Street, London, price 5s. 3d. free by post.

Winter Pruning Pyramid Apple and Plum Trees (Rosedale).—It will not be too late to prune the trees the last week in February, as they will not have made any growth at that time, though the buds of the Plum trees may, in a forward season, have begun to swell. It will, however, be so small as not to interfere with pruning operations or prejudice the subsequent growth.

The Codlin Moth (S. S. and Others).—By the dropping of a letter in paragraph 3, page 353, last week, the word as "new" appears instead of "knew." That is, however, of small consequence; but the omission of a word at the end of the last paragraph but one of the article is of moment, though the context ought to prevent any mischief being done in destroying bees. The moth does not deposit eggs directly into the blossom, and therefore the sentence should have read:—"The work (of spraying) ought not to commence when the trees are in blossom, or bees would be killed." It should commence as soon as the fruit is set.

Keeping Grapes (Amateur).—The bunches should be cut immediately, and as you have no Grape room, suspend bottles from the front of shelves in a cool, frost-proof room. The system is shown in fig. 66. The bottles are placed 7 inches apart. Two ordinary carpet tacks are driven into the front of the shelf (1 inch apart) for each bottle. A piece of ordinary binding wire is fixed to one tack, a bottle is placed in the desired position, and the wire pulled tightly round the neck and round the other tack; it is then passed along without cutting it to the next bottle, twisting it round the neck in the same way. The tacks are then driven home, so that the wire does not slip. In a similar manner another wire is fixed so as to

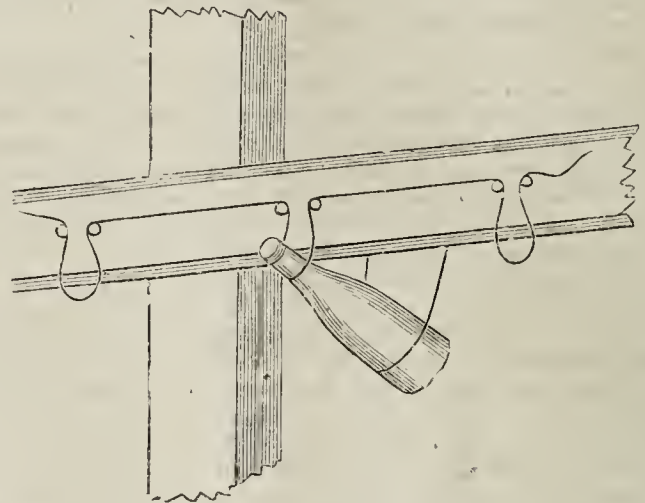


FIG. 66.—BOTTLING GRAPES.

form a sort of "sling" to pass under the bottom end of each bottle and support it at the desired angle. These should be fixed on the top and passed down between the openings of the fruit shelves. The wires are not the least in the way when the bottles are removed.

Position for Cucumber Frame in the East of Scotland (O. F.).—The frame must have an open situation, so that it can receive all the sun possible from the east, south, and west, but is better for shelter from the north, such as that of wall, fence or hedge. A position on the south side of the stone wall, and about 4 feet from it, would be an excellent one. Full particulars as to soil and treatment will appear in our "Work for the Week" column in due course.

Dressing of Manure to a Tennis Lawn (E. A. W.).—The best time to apply a dressing of animal manure to grass is the present, as then the manurial elements are washed into and retained by the soil, while the manure itself becomes ameliorated by the exposure, some being washed into the soil or about the roots of the grasses, and the whole working in well in the early spring. For a light soil cow manure is the best, and for a heavy one horse droppings. The chief thing is to have the manure moderately decayed or short, and to spread as evenly as possible.

Apple Tree Infested by Caterpillar (E. L. J.).—The piece of Apple tree was tunnelled vertically by the caterpillar of the wood leopard moth, *Zeuzera aesculi*. Of late years the wood leopard moth has become very prevalent in some districts on young Apple trees, boring into the branches by its larvæ, and these in consequence liable to damage by winds, dying off either by direct attacks of the caterpillars or the indirect agency of canker and decay. As you say, syringing with an insecticide would not be of any use, for it could not reach the caterpillars in the tunnels, for these are made upward. In small branches the caterpillar often follows the line of pith, but in large ones bores just under the bark, yet clear of it, in the wood, avoiding the heart-wood because practically containing less nourishment. The hole where the caterpillar has entered may usually be detected in the bark, and a strong pliable wire run into the hole will crush the enemy within, as indicated by the wet, whitish matter on the wire when withdrawn. Injecting nicotine essence into the hole by means of a squirt sometimes proves effective. These methods, however, only prevent further damage, hence desirable on that account; but as a moth has been known to deposit as many as 300 eggs, obviously the most important thing is to destroy the moths. They are very partial to artificial light, and this should be taken advantage of by using a hurricane lantern stood in the centre of a tray smeared inside with a sticky substance, but not strong smelling (such as gas tar), elevating it on a log of wood 3 to 4 feet from the ground. The males emerge from the pupæ cases some days in advance of the females, and are considerably smaller with feathered antennæ or horns, those of the other being simple. The moths are readily seen at dusk or soon after by their white somewhat transparent and blue-black spotted wings, and hover about hedges and the food plants or trees of the larvæ. When the first is seen (our record is the middle of July) set the "allures" about 50 yards apart, and light them at dusk and continue each evening until the end of August. This we have found the best of all preventives, in a wooded district where we were sorely plagued for many years by migrations of the moths, which worked ruin in our recently planted orchards and fruit plantations. We also found great benefit before the use of the "allures" by spraying with Paris green for the destruction of the leaf-eating caterpillars, also from treatment with sulphate of copper, as Bordeaux mixture, for fungoid pests, some of the poison remaining on the bark and giving the caterpillars their quietus. Main reliance, however, must be placed on destroying the moths.

Imperfect Chrysanthemum Bloom (A. T.).—The flower is what is known as blind-centred, the florets not developing there, or in a very irregular manner, and at a later period than the outer florets. It is a sort of double bud, or bud inside a bud formation, and rather common in Carnations and other plants when too liberally fed during the period of growth and up to the formation of the buds. The plants should be given less stimulating matter, especially less nitrogenous food, which make for leaf rather than floral development in the buds, supplying more phosphatic and potassic elements in the growing stages. When supplementing with nitrates the florets develop freely.

Edible Part of Cardoon (O. F.).—This vegetable is much esteemed on the Continent, but is not cultivated to a large extent in English gardens. The ribs or stalks of the leaves form the edible parts, and if well blanched and properly cooked (like stewed Celery) form an excellent dish in winter. The flower part or head has no edible value like the Globe Artichoke. The plants are grown in trenches similar to Celery, but require a space of about 2 feet between them, and 6 feet between the rows. The seeds are best sown towards the end of April in small pots, placing in a cold frame, and plant out before they become root-bound. At the end of September or earlier the plants will be ready for earthing up, but before any soil is applied the stalks must be arranged upright and closely bound with haybands to within a foot of the top. The soil must then be brought up nearly as high as the haybands reach, and be beaten hard with the spade. It is very important that this operation should be performed on a dry day, when the hearts are free from water, or they will probably decay. The plants will be fit for use in about a month, and may be taken up as required. If the plants have to remain for any length of time during winter, rain and frost must be excluded by means of a covering of litter, or they can be lifted and stored in a cool dry place, the haybands being allowed to remain on. The Spanish Cardoon is the best form, and must be grown from seed each season, but the Cardoon (*Cynara cardunculus*) is a perennial.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (J. M.).—A coarse-grained fruit, that is unknown and worthless. (W. S. L.).—1 and 2, characters destroyed by decay, and made worse by the use of buckwheat chaff and sawdust as packing material; 3, Beurré Diel. (E. S. A.).—1, Warner's King; 2, Hanwell Souring; 3, Winter Codlin; 4, Scarlet Pearmain; 5, Wyken Pippin; 6, abnormal and unrecognisable. (R. C. W.).—1, Beurré Hardy; 2, imperfect, specimen unrecognisable; 3, over-ripe, resembles late fruit of Windsor; 4, Bergamotte Rouge; 5, Belmont; 6, stalk broken, possibly Spanish Warden. (W. H. B.).—Pears: a, Duchesse d'Angoulême; b, Comte de Lamy. The Apple is an excellent example of Hollandbury. (Salop).—1, this ought to have been sent sooner, as it was so rotten as to prevent positive identification; it resembles Colmar d'Été; 2, Pitmaston Duchess. (A. C.).—1, quite rotten; 2, Comte de Lamy. Apple Evargil. (H. K.).—1, not a typical specimen, possibly Dr. Harvey; 2, local, probably never had a recognised name; 3, Golden Winter Pearmain; 4, Claygate Pearmain; 5, Tower of Glamis. Several packages have again had to be held over owing to late arrival.

COVENT GARDEN MARKET.—Nov. 16TH.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve ...	1	3 to 3 6	Lemons, case ...	30	0 to 60 0
Cobs ...	50	0 55 0	St. Michael's Pines, each	2 6	5 0
Grapes, lb. ...	0	10 1 6			

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0	0 to 0 0	Mustard and Cress, punnet	0	2 to 0 4
Beans, $\frac{1}{2}$ sieve ...	0	0 0 0	Onions, bushel ...	3	6 4 0
Beet, Red, doz. ...	1	0 0 0	Parsley, doz. bnchs...	2	6 3 0
Carrots, bunch ...	0	3 0 4	Parsnips, doz. ...	1	0 0 0
Cauliflowers, doz. ...	2	0 3 0	Potatoes, cwt. ...	2	0 4 0
Celery, bundle ...	1	0 0 0	Salsafy, bundle...	1	0 0 0
Coleworts, doz. bnchs.	2	0 4 0	Scorzonera, bundle...	1	6 0 0
Cucumbers, doz. ...	0	4 0 8	Seakale, basket...	1	6 1 0
Endive, doz. ...	1	3 1 6	Shallots, lb. ...	0	3 0 0
Herbs, bunch ...	0	3 0 0	Spinach, pad ...	0	0 0 0
Leeks, bunch ...	0	2 0 0	Sprouts, $\frac{1}{2}$ sieve ...	1	6 1 9
Lettuce, doz. ...	1	3 0 0	Tomatoes, lb. ...	0	4 0 9
Mushrooms, lb. ...	0	6 8	Turnips, bunch...	0	3 0 4

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6	0 to 36 0	Ficus elastica, each ...	1	0 to 7 0
Aspidistra, doz. ...	18	0 36 0	Foliage plants, var., each	1	0 5 0
Aspidistra, specimen ...	5	0 10 6	Lilium Harrisii, doz. ...	12	0 18 0
Crotons, doz. ...	18	0 24 0	Lycopodiums, doz. ...	3	0 4 0
Dracæna, var., doz. ...	12	0 30 0	Marguerite Daisy, doz. ...	6	0 9 0
Dracæna viridis, doz. ...	9	0 18 0	Myrtles, doz. ...	6	0 9 0
Erica various, doz. ...	9	0 24 0	Palms, in var., each ...	1	0 15 0
Euonymus, var., doz. ...	6	0 18 0	„ specimens ...	21	0 63 0
Evergreens, var., doz. ...	4	0 18 0	Pelargoniums, scarlet, doz.	4	0 6 0
Ferns, var., doz. ...	4	0 18 0	„ „ ...	8	0 10 0
„ small, 100 ...	4	0 8 0	Solanums, doz. ...	6	0 12 0

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch...	2	0 to 2 6	Marguerites, doz. bnchs.	2	0 to 3 0
Bouvardias, bunch ...	0	4 0 6	Maidenhair Fern, doz.		
Carnations, 12 blooms ...	1	0 2 0	bnchs. ...	4	0 6 0
Chrysanthemums, per bch.	0	3 2 0	Mignonette, doz. bnchs. ...	1	6 3 0
„ specimen			Narcissus, doz. bnchs. ...	5	0 6 0
blooms, per doz.	2	0 5 0	Orchids, var., doz. blooms	1	6 9 0
Eucharis, doz. ...	3	0 4 0	Pelargoniums, doz. bnchs.	4	0 6 0
Gardenias, doz. ...	1	0 2 0	Roses (indoor), doz. ...	2	0 4 0
Geranium, scarlet, doz.			„ Red, doz. ...	2	0 0 0
bnchs. ...	0	6 0 9	„ Tea, white, doz. ...	2	0 3 0
Lapageria (white) ...	1	6 2 0	„ Yellow, doz. (Perles)	2	0 3 0
„ (red) ...	1	0 1 3	„ Safrano (English) doz.	1	0 2 0
Lilium lancifolium, white	3	0 4 0	„ Pink, doz. ...	2	0 4 0
„ „ pink	3	0 4 0	Smilax, bunch ...	1	6 2 0
„ longiflorum, 12 blooms	6	0 8 0	Violets ...	0	9 2 6
Lilac, bunch ...	5	0 6 0	„ Parme, bunch ...	2	9 3 0
Lily of the Valley, 12 sprays	0	9 1 6			



MASTERS AND MEN.

WE had almost written Men and Masters, and, to put it mildly, there is little difference between the two nowadays, so precedence can be of small moment. If we inquire of a small boy in the village street the name and calling of his father, he is pretty certain to reply, "Mr. Smith as works at Brown's." Jack is as good as his master, in fact, or, at any rate, in his own opinion. That the labourer should fully appreciate his own value is quite right, but he must not over-estimate himself, or he will have to do one of two things—rob his employer by non-performance of duty, or seek fresh employment.

To arrive at the greatest mutual benefit, employer and workman must have full confidence in each other. A suspicion on one side that a man is neglecting or scamping his work, or on the other that the master expects too much work for too little pay, is destructive of good fellowship and of the best interests of both.

The relations between master and man fifty years ago were, generally speaking, much more cordial than they are now, though the man was much more dependent. Farms in those days passed on from father to son, and the men seldom changed their employment, so that they came to belong in a sort of way to a farmer, the relation being somewhat that of a serf, though of course not obligatory. Thus the men would take a keen interest in the success or otherwise of the various crops, for did they not remember the yields of every field for many years, and had they not listened with rapt attention to the fairy tales told by their fore-elders about the wonderful crops in days gone by?

Truly, times have changed, and men have changed with them; the young labourer does not look upon the farm as the be-all and end-all of his existence; he is a reader of the weekly—nay, often of the daily papers, for the evening press finds its way into many nooks where until lately even a weekly paper was rarely seen. Many of the single men are tempted by employment on the railway, or as carters in the towns; they do not always stay in such situations, for those who are not naturally fond of hard work, on finding that more pay entails more work, soon return to their native village, and if they can scratch on at all, rarely afterwards leave it. The best men, who not

only will work but are ready to learn to do so in a scientific way, find ready employment nowadays, and at wages which, when carefully calculated from every point of view, do not compare unfavourably with the earnings of a large number of dwellers in the towns.

Of course rural life provides less amusement, but it is very healthy, besides which there is more clannishness, or to speak more correctly, good neighbourliness in the village than in the town. If the labourer of to-day will make the best of himself, there is no reason why he should not do well and save money on a farm. The low price of farm produce has affected him rather favourably than otherwise, as he is paid almost entirely in money, the spending power of which has so largely increased.

We think that if farmers, as a body, would give more encouragement to young villagers to learn the skilful use of their hands, and when taught, would give them the good wages which they can then earn, and are really worthy of, we should hear less of scarcity in the rural labour market. More than this, with an increase in the supply of skilled labour, there would be less demand for the unqualified and idler class, who thus, from sheer necessity, would be driven to make themselves more capable, or go without work sufficient for a maintenance.

There are far too many of this latter class in our villages now; they are generally unmarried, and live at home with their parents as long as the latter can keep them when work is scarce. As soon, however, as the parents begin to fail and to look for help to the son, the latter thinks it is time he bettered himself, and makes off to the manufacturing districts, the old folks receiving little of either help or sympathy from him afterwards. Such cases are only too common. Married sons are generally much more filial in their behaviour, and, good citizens as they generally are, notwithstanding the heavy calls from wife and family, can do a noble share in helping their parents in old age.

We have known farmers who made a rule never to keep a man more than so many years. The idea was that a man became masterful, or inclined to assert himself after a time, and having been as his master said long enough, would have to leave. We also knew a labourer who would only stay a few years in one place, because, as he said, if he stayed too long he would never learn anything. That man ended his days learning to repair roads.

We cannot agree with such ideas; the more the man knows of his master's work, the more valuable he should be to him, and the master should make it worth his while to continue in his employ.

Many of the old-time customs have fallen into disuse; there appears no adequate reason for their being given up, except from indifference, for some were very popular, and would be now were they revived. The bringing home of the last load of corn with rejoicing was a very pleasing feature with which to close the harvest season. Perhaps, now corn is so much cheaper, the farmer thinks it not worth making such a noise about. The last load was always, by arrangement, a small one; half the children of the village were piled on the top, each with a flag or green branch to wave. The horse and wagon were decorated, and the harness specially bright. At intervals the waggon would be gently stopped, when at each halt the waggoner would recite a verse of what was known as the harvest nomine. The first verse ran something like this:

Mr. Brown, he is a good man,
He lets us ride his harvest dam;
He gives us beef, he gives us ale;
We hope his heart will never fail.
Hip, hip, hurrah!

On arrival in the stackyard, ale was distributed among the men, and huge baskets of apples scrambled for by the children.

A week or two afterwards the rejoicing found its climax in the harvest supper, when the men and their wives were entertained to roast beef (1½ lb. per head), and plum pudding, and beer and 'bacca *ad libitum*. After supper and the toasts of "the Queen" and "the Master," every man, after much pressing, sang his favourite song, these songs ranging from the "Garden Gate," in high falsetto, to the "Great Meat Pie," and "We're all jolly good fellers that follers the plough."

Alas! we seldom hear of such rejoicings now, and we can feel the regret the more, for the men seldom abused the good cheer put before them, but drank temperately, and were all ready for work next morning.

WORK ON THE HOME FARM.

The weather is perhaps as favourable for the Wheat sowing as it can be at such a late period, for the seed bed is that happy medium we so often aim at but seldom attain. We can now dismiss the too-well worn topic until February, when we hope with others to sow a little more of this all-important cereal. The only fear as regards the well-being of this year's Wheat crop is that the roller has not been sufficiently used before and after the drill; since good ploughing has been possible the weather has been too unsettled to allow of much use of the roll, so we must bear this fact in mind and watch for the earliest opportunity to rectify the omission. On light soil that most needs rolling the work may in favourable seasons be done in early February.

Attention must now be paid to the fallows which have been cleaned since harvest; they must be ploughed as early as possible, but care must be taken that the work be thoroughly well done. The whole of the land must be cut through by the share, especially if it be subject to thistles, and much good land is so. This ploughing will take the horses about a fortnight to complete. A deep but narrow furrow, say 6 inches in depth by 8 inches wide, will suit any soil for a Martinmas ploughing, but if a greater depth be desired the chilled ploughs will turn a furrow 9 inches by 12 inches without risk of missing any thistle roots.

We rather believe in deep ploughing on light and medium land, but do not believe in it as a complete cure for twitch, for which purpose we see that it is recommended. Years ago we saw the system well tried by a practical farmer, with the result that after a few years the land was so foul that he gave the farm up rather than attempt the task of cleaning it, and the landlord had to farm it himself for a time before he could let it. The ploughing was 14 inches in depth.

The cattle are all up in the yards; the younger ones stay up altogether, but the elder ones are turned out a little every day. There is little grass left, and they will shortly have to stay up altogether. We are using dried grains to mix with the chaffed straw in addition to and partly instead of roots, which have improved but must be scarce before spring. Many Turnips are rotten and all are small in size.

OUR LETTER BOX.

Hay for Animals (Z., Warwickshire).—Under the circumstances named the amounts would be, approximately, for calves four months old 10 cwt., yearlings of twelve to sixteen months 1 ton. Much depends, however, on the amount of grass available, and also on the character of the winter, and judgment must be exercised accordingly. A letter was sent to you about a fortnight ago to another address than that now given, but not published, and we hope you received it.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1898. November.		Barometer at 32°, and Sea Level	Hygrometer		Direc- tion of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Temperature.		
			Dry.	Wet.			Max.	Min.	In Sun	On Grass	
		inches	deg.	deg.		deg.	deg.		deg.	deg.	inches.
Sunday	6	30.131	40.8	40.8	S.W.	49.0	53.2	40.4	64.8	37.3	—
Monday	7	30.090	47.9	47.8	S.	47.9	51.4	39.9	68.3	34.2	—
Tuesday	8	30.011	43.8	43.7	E.	47.9	53.1	41.3	61.8	35.1	—
Wednesday	9	30.203	50.1	50.1	N.E.	48.1	57.8	43.2	71.2	36.4	—
Thursday	10	30.081	50.8	50.7	N.E.	49.2	54.6	49.9	63.8	41.1	—
Friday	11	30.058	47.7	47.7	N.E.	49.2	53.7	45.4	62.1	38.7	—
Saturday	12	29.821	47.1	47.1	N.E.	49.3	53.8	44.4	54.1	40.9	0.014
		30.056	46.9	46.8		48.7	53.9	43.5	63.7	37.7	0.014

REMARKS.

6th.—Fog in morning with bright sun above; sunny afternoon; foggy evening.
7th.—Sunny nearly all day.
8th.—Fog early, clearing gradually, and sunny from 11 A.M.; cloudy evening.
9th.—Fog in morning, clearing gradually; mild sunny afternoon; overcast evening.
10th.—Slight fog early; cloudy morning; faint sunshine in afternoon; fog in evening.
11th.—Foggy morning; sunny from noon till sunset; overcast night.
12th.—Wet fog in morning; overcast after, with spots of rain in evening.
Barometer and thermometer both rather high; much wet fog, but scarcely any rain.—G. J. SYMONS.

THE CHRYSANTHEMUM SEASON

Is practically over, and kindly note result, viz.—

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Journal of Horticulture.

THURSDAY, NOVEMBER 24, 1898.

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HOUSE DECORATIONS.

THIS subject is very rarely dealt with in the gardening journals, probably because almost every place has its peculiar phases of this branch of artistic gardening. In some establishments it is done on a lavish scale, in others only moderate attention is accorded to it, while many persons are content to have a few plants in their rooms. I think no one doubts the fact that plants give an additional grace and charm to the luxurious furnishing of rooms, more particularly if they are skilfully utilised so as to harmonise with the surroundings.

It is well to bear in mind that beautiful as contrasts may be, harmonies are more pleasing, and to effect this a lady of taste has her rooms with wall hangings, window draperies, and carpets to match. This, so to speak, is the framework for a beautiful setting. I believe in conveying knowledge by illustration, and to effect my purpose I will endeavour to describe the way the principal rooms in a country house in Cumberland were furnished with plants and flowers. Many persons may consider it a little extravagant or overdone, but with a large garden and abundance of glass this difficulty was overcome, and as the taste of the lady of the house was beyond question, I make bold to give the complete descriptions.

The rooms dealt with included a long drawing room in three divisions, dining room, saloon, grand staircase, and boudoir. The latter had its walls covered with sea green brocaded silk, the window hangings being of the same material, as were the coverings of the white couches and chairs; the piano also was white. A low bookcase on the floor, an escritoire, and some occasional tables were of marqueterie work. Only four flowering plants usually in 4½ or 5-inch pots in vases were in this room, and a scented "Geranium" always stood upon a side table. The plants which found most favour were Zonal Pelargoniums, Pansies, some Bromeliads, Roman Hyacinths, and almost all forced bulbous plants that did not produce blue or any shade of blue flowers, this colour being rigidly excluded. The top of the piano had in the

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centre a large porcelain vase usually filled with *Liliums* of different varieties, according to the time of year. *Eucharis*, *Chrysanthemums*, or other tall choice flowers were employed, preference being given to such as were not too upright in habit. Two trumpet vases stood on each side, and four smaller vases were ranged in front. *Carnation* Raby Castle was extremely popular when procurable for these vases, while in winter *Tree Carnations*, *Paper White Narcissi*, and double *Zonal Pelargoniums* were used. The other flower vases, some seven or eight in number, would be filled about the end of summer as follows:—Two glass bowls standing on the bookcase with *Sweet Peas*, a barrel-shaped glass vase on a corner table with tall *Hollyhocks* of pure colours, or sometimes with *Day Lilies*; a slender glass tubular vase held always five or six spathes of *Anthuriums*; a small bowl was the receptacle for six or eight *Gardenia* blooms; a tall trumpet glass took *Shirley Poppies*, and another of similar shape *Lilium speciosum*, besides two or three shallow glass bowls of *Carnations* or double *Zonal Pelargoniums*.

Passing from the boudoir we come upon the grand staircase leading to the vestibule, below the walls of which are covered with ochre coloured *Lincrusta*, the carpets being of crimson. From the walls hung family portraits, and light streamed in from a Gothic window. In angles on the two halfway landings stood rosewood Nubian figures 5 feet in height, with a receptacle on their heads for a small plant, for which the most suitable and appropriate were *Rex Begonias*, or the white-leaved *Eulalia japonica variegata*, *Caladium argyrites*, or *Ficus Parcelli*. Towering against the wall of the vestibule, immediately opposite the staircase, were two Nubian figures of 20 feet high, with receptacles for plants. For these, large well variegated *Pandanus Veitchi*, *Ananassa sativa variegata*, *Aralia Chabrieri*, *Cyperus alternifolius variegatus*, *Diffenbachia Bausei*, or *Maranta zebrina* were employed. In two large blue vases standing on pedestals, and of a size to hold the largest sized pot or a tub, a pair of noble Palms looked very graceful, especially such as *Chamædorea elegantissima*, *Rhapis flabelliformis*, or *Livistonia chinensis*; sometimes a pair of *Bambusa nigra*, or *B. aurea*, reaching almost to the summit of the staircase, were substituted. The plants occasionally used for the Nubian figures were purple-leaved or purple-flowered, as these harmonised with the walls as a background. *Alocasia purpurea*, *Strobilanthes Dyerianus* (grown without pinching), *Bougainvillea glabra Sanderiana* (in 6 or 7-inch pots from an intermediate temperature), *Eranthemum pulchellum*, with its intense blue flowers, found places in early winter, as did the purple-berried *Callicarpa purpurea*. Then there were *Achimenes Mauve Queen* with five or six corms in a 5-inch pot, *Torenia asiatica* with its lovely purple flowers, with the annual *Torenia Fournieri*.

The adjoining room was the saloon, lit only by a large window between it and the entrance hall, so that light was admitted, so to speak, secondhand. The walls were covered with yellow Cordova stamped leather, and the carpets were crimson. Family portraits and old armour adorned the walls, while round the ample fireplace were couches upholstered in Indian cretonne. Rich screens of crimson with scroll work of gold stood behind them, and the furniture was of rosewood, ebony, and walnut. The screen between one couch and the doorways leading to the library and drawing-rooms had between it and the couch two or three large *Acalyphas*, such as *Macafecana*, *macrophylla*, or *musaica*. Tall plants of *Diffenbachia Bausei* were also liked, as well as large specimens of *Begonia fuchsioides* or *B. insignis*. Behind the central screen, and towering above it, were two tall Palms in vases on rosewood buffets, a pair of either *Phoenix reclinata*, *P. rupicola*, or *Latania borbonica* being used. Across the angle of one corner of the room, on a side table, stood two medium-sized *Kentia Fosteriana* or *K. Belmoreana*. The top of the piano held three flowering plants, and two others stood on each side of a richly carved ebony wardrobe on platter-like receptacles attached by chains. *Zonal Pelargoniums* were preferred before all other flowering plants, but yellow or rich orange-flowered plants suited admirably the rather sombre and badly lighted interior. Two tall earthenware vases stood on occasional tables, and two cylindrical glasses under the Palms on the side were filled from end of July to the middle of October with herbaceous flowers cut with stems as long as possible, yellow, scarlet, or white being the colours admitted, of which *Helianthus*, *Rudbeckias*, *Gladiolus bruchleyensis*, *Cactus Dahlias* *Glare of the Garden* or *Juarez*, annual *Sunflowers*, herbaceous *Phloxes*, pure white or pure crimson, and in winter *Chrysanthemums*, may be quoted.—F. STREET.

(To be concluded.)

CHEMISTRY IN THE GARDEN.

MANURES.

FARMYARD manure is one of those substances the gardener has not, so far, learnt to do without. Will that time ever come? We doubt it, although we have heard lecturers—exploiters of artificial manures—say that these are far superior to animal or farmyard manure. They also say the artificials are the cheaper, and more suited in every way for crops. We only wish such men as these had to obtain their living by growing fruit, flowers, or vegetables for market; they would soon learn that in practice plants require something substantial, and that nothing suits them so well as farmyard manure in conjunction with artificials.

FARMYARD MANURE.

Farmyard manure is a term applied to the solid and liquid excrements of horses, cows, and pigs, mixed with different kinds of litter. It is a substance of almost vital importance to gardeners, and yet in many cases how little is known about it. This manure is a very complex body when taken as a whole, but there are certain elementary principles with which all cultivators should be familiar. We will, therefore, devote a little time to a consideration of the simple constituents, leaving the more complex for scientists to battle with.

Farmyard manure is applied to the soil principally with the object of supplying plants with food. We have seen in a former article that the principal food of plants is nitrogen, potash, and phosphoric acid. One ton of a good sample of natural or animal manure will contain about 12 lbs. of nitrogen, 12 lbs. of potash, and 6 lbs. of phosphoric acid. It is not generally known that the urine of animals contains nearly thrice as much plant food as the solid excrements. This is a fact, however, for it has been demonstrated that while a ton of horse manure contains about 12 lbs. of nitrogen, 12 lbs. of potash, and 8 lbs. of phosphoric acid, the same weight of urine would contain 30 lbs. of nitrogen, 32 lbs. of potash, but only traces of phosphoric acid. A rather remarkable fact is, that while phosphoric acid is almost entirely absent from the liquid excrement of horses, cows, and sheep, there is comparatively a large amount present in the pig's urine. Looking at the matter broadly, we see that by constantly using only farmyard manure on land, we are applying considerably more nitrogen and potash than phosphoric acid, and yet many of our crops require almost as much of the latter substance as they do of the two former. It is to make up this deficiency as regards phosphates that taught practitioners the value of mixing bonemeal in fruit borders and in potting soils, for the meal is essentially a phosphatic manure.

The first things in farmyard manure to become available to crops are the nitrogen and potash in the urine. This being so, we see how essential it is to have a litter that will absorb as much of the liquid as possible, for the greater the amount of plant food a manure contains the more valuable will it be to the crops, and also from a £ s. d. point of view.

The different litters used for bedding cattle vary very much in their absorptive power. Wheat straw, oat straw, sawdust, wood shavings, peat moss and leaves, are the substances chiefly utilised as litters. Wheat or oat straw will absorb three times its weight of liquid, wood shavings not so much, sawdust four times, and peat moss eight times. Leaves vary according to the amount of moisture they contain when used. Peat moss stands out head and shoulders above the others in absorptive power. But let us see what the composition of the different litter is like. A ton of wheat straw contains about 10½ lbs. of nitrogen, 12½ lbs. of potash, and 6½ lbs. of phosphoric acid. Oat straw is less rich in plant food. Wood shavings and sawdust are very similar in composition; a ton of the latter would contain about 6 lbs. of nitrogen, 6 lbs. of phosphoric acid, and 9 lbs. of potash, but these constituents are in such a condition as to be worthless from a practical point of view. One ton of peat moss will yield 17½ lbs. of nitrogen, 20 lbs. of potash, and 6 lbs. of phosphoric acid. The same weight of leaves would contain about 10 lbs. of nitrogen, 7 lbs. of potash, and 5 lbs. of phosphoric acid.

We see by these figures that of all the litters used peat moss is the best as regards absorptive power, and also contains the most plant food, but there are certain things with regard to peat manure that have to be considered before using it extensively. The first is that being able to absorb so much moisture it is liable to get saturated with water, and is, therefore, not so suitable for wet clayey land as straw manure; secondly, on account of its vegetable nature it yields a large quantity of vegetable acids when decomposing, and is apt to make soils sour; and thirdly, it contains so much nitrogen that unless it is kept moist the manure will get too hot, and much of the nitrogen will escape from it. We have also to take into consideration the power peat moss has of resisting decay, so that very little of the food constituents contains becomes available to growing crops.—W. DYKE.

(To be continued.)



LÆLIA PERRINI LEUCOPHÆA.

A VERY handsome and popular autumn-flowering Orchid is *Lælia Perrini*, which came from Brazil. In addition to the type there are a few varieties, of which the latest to be shown is *L. P. leucophæa* (fig. 67). This was sent to the Drill Hall on October 27th, when it received an award of merit from the Orchid Committee of the Royal Horticultural Society. In the type, as is well known, the prevailing colour is rose in the sepals and petals, and purplish crimson in the front lobe. The form under notice, however, is entirely distinct from this, the sepals and petals being delicate mauve. The lip is deep slaty mauve, and the side lobes and throat soft primrose. The flowers are rather larger than those of *L. Perrini*. The exhibitor was Mr. W. H. Young, Orchid grower to Sir Fred. Wigan, Bart., Clare Lawn, East Sheen.

ODONTOGLOSSUM MINIATUM.

In its best forms this is a really pretty *Odontoglossum*, but it is not so easy to grow as many others. Treated in the ordinary way to pots or pans, it soon gets beyond the rims and loses strength, while, if the receptacles are very large, it is easy to give too much water and set up stagnation at the root. In common with a few other Orchids, such as *Coelogyne pandurata* and similarly habited kinds, *O. miniatum* does well in large but thinly dressed rafts, the compost consisting of two parts of sphagnum moss to one of peat. No fear need then be entertained as to drainage, and if duly attended to otherwise, the plant in question thrives admirably with cool species generally.

ODONTOGLOSSUM LYROGLOSSUM.

This pretty kind is usually considered a variety of *O. luteo-purpureum*, but it is a very distinct one with its well expanded blossoms, and its singularly folded lips. I noted a fine spike of it in a group of plants a short time back, and it is therefore to be reckoned as an occasional autumn bloomer. The sepals are bright yellow, the petals paler, both being blotched with chestnut brown. It does well in the coolest house, and the plants ought to be examined without further delay as to compost, using a mixture of peat and moss in pots just large enough to allow a margin of an inch all round the plants.—H. R. R.

NYMPHÆAS AND BEES.

In one part of an extensive lake we have large masses of *Nymphæa alba*, and within a few yards are several plants of *Nuphar lutea*, the common yellow Water Lily, both of which grow and increase at a rapid rate, and bloom freely. Within 300 yards is a large apiary, numbering upwards of thirty strong colonies of bees. As the majority of the stocks are worked for honey production they are of great strength during the time the Water Lillies are in bloom, and at a low estimate there must be at least 100,000 bees on the wing, foraging for honey when the weather is fine at that season. It is, therefore, only reasonable to expect them to visit all flowers yielding honey or pollen within flying distance of their hives, and it is a well known fact that bees will fly at least two miles to obtain it. Although the bees are so numerous we have not observed them at any time to be working on either of the above varieties of Water Lilies.

We are inclined to think the climate must have something to do with this, as the article by Mr. Thos. Pockett, Victoria, Australia, on page 335, shows that the bees have been seen to alight on *N. alba* and also on *N. flava*, although the same bee would not visit the latter variety after alighting on the former. We do not think the flavour has anything to do with it, as we have often observed bees to follow the same rule with our ordinary garden and wild flowers. Take, for instance, the yellow and blue Crocus, or the yellow and red Wall-flowers. As a rule, if the flowers of each colour are numerous, the bees which are working on the flowers of one colour will more often alight on the blooms of the same colour than on those of a different shade. Again, bees working on, say, a bed of Mignonette or White Clover will rarely visit another species until after they have returned to their hive. We think colour has more to do with it than flavour.

As showing that the above-mentioned Water Lilies have not been fertilised one with the other, either by bees or insects, we may mention the fact that there have been numerous seedlings from *N. alba* which have been identical in growth, colour, and size of the blooms with the parent plant. What has been the fertilising agent we are unable to say.

In various parts of the country we have seen several varieties

of *Nymphæas* grown in the open air, but in no instance have we noted a chance seedling that has been different in character from the parent plant. We are, therefore, convinced that if it is desirable to obtain hybrids from two varieties of *Nymphæas* it will be necessary to carefully hybridise them by hand. By no other means will the desired end be obtained. It will doubtless be interesting to readers of the *Journal of Horticulture* if Mr. Pockett will record his experiments in that direction.—A GARDENER AND BEE-KEEPER.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL.—NOVEMBER 22ND.

THE morning of Tuesday last, when the Committees of the Royal Horticultural Society met at the Drill Hall, opened very cold, and taking this into consideration the display was good. The bulk of the exhibits

were comprised of Chrysanthemums, which were grandly shown, especially by a few of the large trade growers. Orchids were not very numerous, while fruits and vegetables were exceptionally few in numbers.

FRUIT COMMITTEE.—Present: Phillip Crowley, Esq. (in the chair); with Rev. W. Wilks, and Messrs. J. Cheai, J. H. Veitch, A. F. Barron, A. Dean, J. Willard, W. Bates, W. Pope, G. Wythes, M. Gleeson, G. Reynolds, H. Balderson, F. Q. Lane, J. Smith, and R. Fife.

Mr. Lewis J. Dunbar, Heath Park Nursery, Hemel Hempstead, exhibited a dozen of Ne Plus Ultra Onion, all very fine specimens weighing about 2 lbs. each.

Messrs. R. Hartland & Son, Cork, exhibited Apples Akern Beauty and

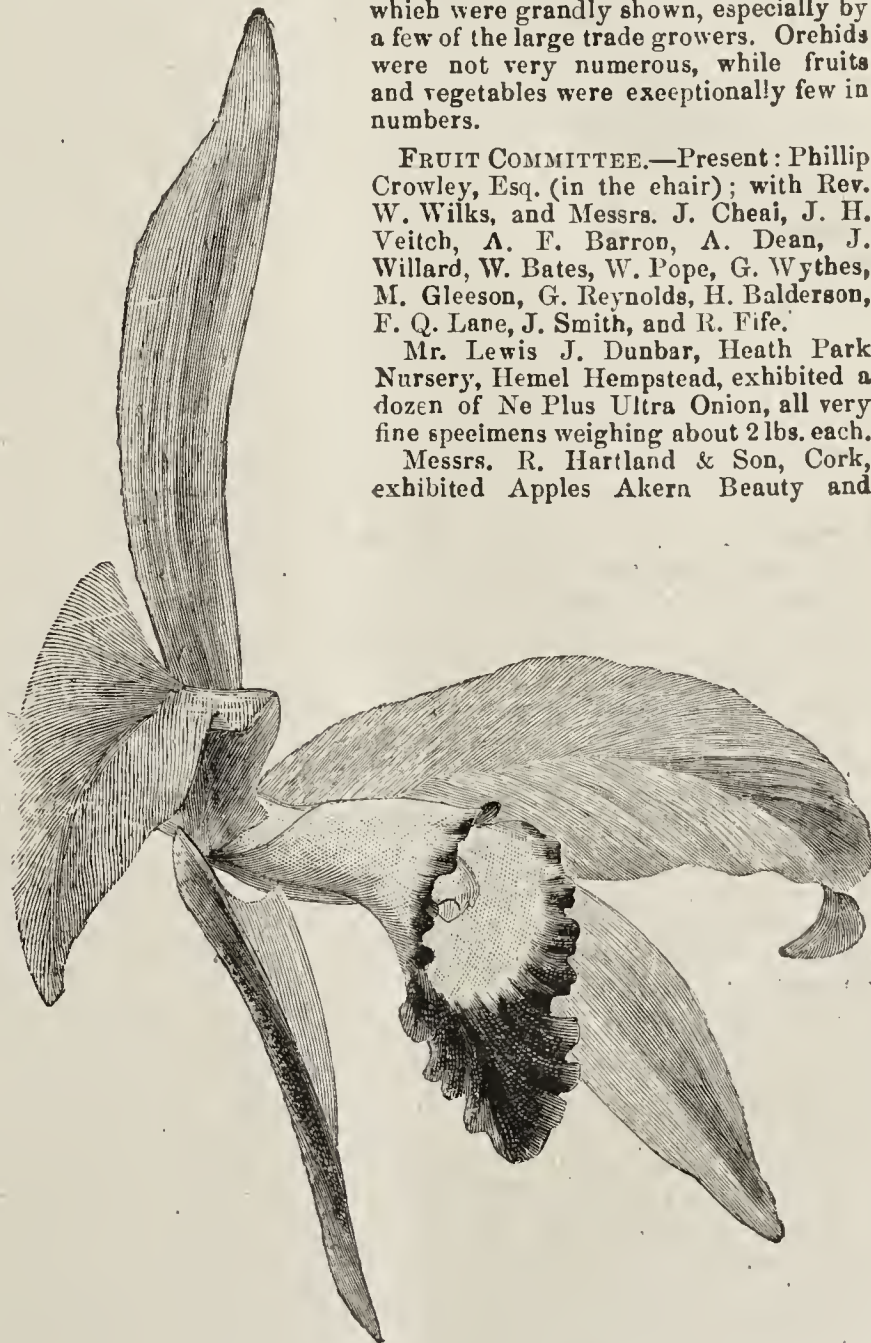


FIG. 67.—LÆLIA PERRINI LEUCOPHÆA.

Ballinora Pippin, the latter somewhat resembling a highly coloured Blenheim Pippin. Mr. G. Rawlings, Whitebrook, Monmouth, sent a seedling Apple, which was passed. Mr. A. Ward, Stoke Edith Park, also exhibited two seedling Apples of good appearance.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with Messrs. J. Fraser, C. T. Druery, G. Stevens, J. Hudson, C. J. Salter, C. E. Pearson, G. Gordon, J. T. Bennett Poë, J. D. Pawle, C. E. Shea, E. Beckett, C. Bliet, D. B. Crane, C. Jefferies, and J. Walker.

Mr. W. J. Godfrey, Exmouth, staged six dozen blooms of Japanese Chrysanthemums. The most notable were King of Buffs, Chatsworth, Louis Dallé, Mrs. T. A. Compton, Mons. Fatzer, Celeste Faleonnet, and Mary Molyneux. Mr. N. Molyneux, gardener to J. C. Garnier, Esq., Rookesbury Park, Fareham, staged three new inured seedlings—Nellie S. Threlfall, a white, with slightly hairy petals; Golden Gem, a deep golden yellow of true form; and Earl of Crawford, a silvery amaranth. Mr. H. Weeks, gardener to Lady Byron, Thrumpton Hall, Derby, exhibited about sixty blooms of his seedlings. They were well grown, and claimed a great deal of attention from the growers present. The best appeared to be Mrs. Cursham, Henry Weeks, Mrs. Coombe, Edith Dashwood, Little Nell, Miss Maud Byron, Annie Prevost, Mrs. Barkley, and Emily Towers.

Mr. A. H. Rickwood, gardener to the Dowager Lady Freake, Twickenham, exhibited an extensive display of blooms, comprising bunches of Japanese incurved and Anemones (silver Banksian medal). Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Reigate, staged three dozen blooms of well grown Japanese Chrysanthemums. The best were: Madame Carnot, John Pockett, Nellie Pockett, Vivian Morel, Mrs. C. H. Payne, Lady Hanham, Mr. A. G. Hubbuck, and Mrs. C. H. Payne (silver Banksian medal).

The premier exhibit in the hall was undoubtedly that from Mr. N. Davis, Framfield, who staged a very attractive exhibit of cut blooms in large vases, baskets, and other receptacles, as well as a number of boards. The stands of Madame Carnot were truly wonderful, while G. J. Warren almost eclipsed it for size, depth, and refinement. Western King was also well grown. The rest of the exhibit was made up of single and decorative varieties (small gold medal).

Mr. W. Wells, Earlswood Nurseries also staged an extensive display, consisting chiefly of new varieties. In the Japanese section, Mrs. T. Carrington, Nellie Pockett, Le Grand Dragon, President Bevan, Surpasse Amiral, John Pockett, and Mary Molyneux were very fine. The other sections were represented by large vases of each to illustrate their decorative value. Mrs. C. Bown, a new Australian variety, pure white, will, no doubt, make a splendid market variety (silver Banksian medal).

Messrs. H. Cannell & Sons, Swanley, occupied a large space with a collection of decorative varieties arranged in vases. Mrs. Butters, Mrs. Filkins, Alice Carter, Mrs. J. Carter, White Jitsujetsui, Chevelo, Centaurea, Miss Harvey, Silk Twist, and Sam Caswell were remarkable in the thread-like varieties; while Natacha, Australie, Surpasse Amiral, Mdlle. Lucie Faure, and Chatsworth were the best of the large flowering varieties (silver Flora medal).

Mr. W. Neville, gardener to F. W. Flight, Esq., Cornstiles, Winchester, staged forty-eight blooms of incurved varieties in first-rate style. The whole stand was very equal throughout. The most prominent varieties were Ma Perfection, Lord Rosebery, Madame Ferlat, Major Bonaffon, Mrs. R. C. Kingston, Madame Laurence Zédé, and Topaze Orientale (silver Banksian medal). Messrs. J. Veitch & Sons, Chelsea, staged a group of winter flowering Begonias, comprising Ensign, Winter Cheer, and Myra, all very bright and attractive for this season of the year.

Mr. H. B. May, Edmonton, staged a fine collection of Dracænas, Bouvardias, Ferns, and Begonia Gloire de Lorraine, the collection of Aspleniums being especially interesting (silver-gilt Banksian medal). Mr. J. H. Witty, Nunhead Cemetery, exhibited the new Japanese introductions in Chrysanthemums, What Ho and Golden Shower. They are curiosities indeed. Messrs. T. Cripps & Son, Tunbridge Wells, exhibited a group of Poinsettias; the bracts were very bright and well developed, the foliage was also excellent (silver Flora medal).

ORCHID COMMITTEE.—Present: S. Courtauld, Esq. (in the chair); with Messrs. J. O'Brien, de Barri Crawshaw, R. B. White, A. H. Smee, H. Little, H. Ballantine, W. H. White, H. J. Chapman, C. Hill, T. W. Bond, W. H. Young, J. Douglas, W. H. Protheroe, and F. J. Thorne.

Mr. Whiffen, gardener to J. Bradshaw, Esq., The Grange, Southgate, exhibited a small but very effective group of Orchids, comprising several good forms. There were Cymbidium Traceyanum, C. Winnianum, Cattleya Mantini, C. maxima, C. labiata, with Sophronitis grandiflora, and one or two others (silver Banksian medal). Diversified Orchids were also contributed by Mr. G. E. Day, gardener to H. F. Simonds, Esq., Woodthorp, Southend Road. The exhibit, though not large, was bright in flowers of such as Cymbidium Traceyanum, Odontoglossum grande, O. Andersonianum, O. crispum, Oncidium Forbesi, O. varicosum, O. pretextum, Masdevallia tovarensis, M. macrura, Angræcum lævis, Lycaste Skinneri, and a few others (bronze Banksian medal). Mr. Downes, gardener to J. T. Bennett-Poë, Esq., Cheshunt, showed a splendid display of Oncidium tigrinum, as well as Aërides Lawrenceiæ. Messrs. J. Veitch & Sons, Ltd., Chelsea, staged Oncidium pectorale from the Organ Mountains; and Mr. J. Metcalf, gardener to J. L. Goodle, Esq., Walthamstow, a seedling Cypripedium. Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, was represented by Calanthes labrosior and Bryan, both carrying grand spikes, together with one or two Cypripediums and a hybrid Dendrobium.

CERTIFICATES AND AWARDS OF MERIT.

Apple Ballinora Pippin (R. Hartland & Son).—A medium-sized Apple of flattish conical form, and wholly dull crimson in colour. The eye is large, deeply set, and wide open, while the very short stalk is quite buried in the russet lined cavity. The flesh is soft and sweet (award of merit).

Calanthe labrosior (W. H. White).—A splendid form. The large flowers are white with a suspicion of blush in the lip, and cream in the other portions of the flower (award of merit).

Chrysanthemum Beauty of Sholing (W. Wells).—A decorative variety of Australian origin. The colour is orange suffused with bronze (award of merit).

Chrysanthemum Earlswood Beauty (W. Wells).—A gracefully formed single of a creamy white shade (award of merit).

Chrysanthemum Daisy Brett (W. Wells).—A pure white sport from Earlswood Beauty (award of merit).

Chrysanthemum Chatsworth (H. Cannell & Sons and others).—A well built Japanese with central incurving florets, the lower ones reflexing. The colour is white lined with rosy purple (award of merit).

Chrysanthemum Golden Shower (J. H. Witty).—A thread-floretted yellow flower of no great beauty (award of merit).

Chrysanthemum Mrs. Barkley (H. Weeks).—A very broad-floretted reflexed Japanese of great substance. The colour is deep pink (award of merit).

Cypripedium Argo-Morganæ (W. H. White).—A handsome Cypripedium. The drooping petals are pale green at the base and claret at the tips, and are profusely spotted with deep reddish brown. The lip is deep claret. The dorsal sepal is white, suffused with green and with occasional maroon markings (award of merit).

Dendrobium formosum-Lowii (W. H. White).—The name given above tells the parentage of this hybrid. The flowers are white, save for rich orange in the centre of the lip and the throat (award of merit).

Epiphyllum truncatum Princess (W. Bull).—The blooms of this are salmon rose in colour, and at the base of the segments there is a band of rich rosy purple (first-class certificate).



JOHN POCKETT.

It must be gratifying to every English Chrysanthemum lover to find his Colonial cousins "down under" are taking up the raising of Chrysanthemums, and that they are being so successful in the work. They have sent us many varieties that are worthy to rank amongst the best of home-raised seedlings, and as a consequence have found places on hundreds of show boards this season. One of the latest is John Pockett, of which Mr. W. Wells of Earlswood kindly sent us the flower we reproduce on page 401. It is one of the handsomest incurved Japanese Chrysanthemums we know, and is thoroughly deserving of the award of merit of the Royal Horticultural Society, and the first-class certificate of the National Chrysanthemum Society. It is a superb flower of great depth and solidity, with big, broad, incurving florets lined with reddish crimson, and the reverse golden bronze. It is named after Mr. John Pockett of Victoria, who occasionally contributes interesting notes to the *Journal of Horticulture*. In each case when the above honours were granted the variety was shown by Mr. W. Wells.

N.C.S. ANNUAL DINNER.

The annual dinner and presentation of prizes of the above Society will take place at the Holborn Restaurant, High Holborn, W.C., on Wednesday, November 30th, at 6.30 P.M. sharp. Sir Albert Kaye Rollit, LL.D., D.C.L., M.P., has kindly consented to take the chair. The challenge trophy, Holmes and Turner Memorial cups, medals, and other prizes, will be presented to the winners during the evening. The tickets are 5s. each. On this occasion the presence of ladies is most desirable.

N.C.S. FLORAL COMMITTEE.

On Monday last the Floral Committee of this Society held a meeting at the Royal Aquarium, when the chair was taken by Mr. Harman Payne. Owing to the weather the meeting was not perhaps up to the usual complement, but the exhibits were nevertheless very good. The chief contributors included Messrs. H. Cannell & Sons, H. J. Jones, Hy. Weeks, W. Wells, Forbes, Witty, Godfrey, N. Molyneux, and several others. First-class certificates were somewhat sparingly awarded, only the following varieties being considered worthy of that distinction—viz:

Florrie.—A single flowering variety of good size, having ray florets of a bright rosy pink. Shown by Mr. G. W. Forbes.

Victoria.—Also a single with rather broad long florets; blooms large; colour pale sulphur yellow. Another of Mr. Forbes.

Edith Dashwood.—A large Japanese with very narrow intermingling florets, forming a flower of great depth and very close in build; colour a very delicate shade of pale lilac pink. From Mr. H. Weeks.

Mrs. Barkley.—This is a noble solid looking Japanese of great size. The florets are rather short, but very broad, and lie closely together, forming a tightly reflexed flower; colour bright lilac mauve. Also from Mr. Weeks.

Chatsworth.—A Colonial Japanese often met with in excellent form during the present season. It has long drooping florets, and the colour is a fine rosy purple on a waxy white ground. Messrs. H. Cannell & Sons were the exhibitors.

Mr. G. W. Forbes staged an interesting collection of good singles, the best of which were Edgar Forbes, terra-cotta; Mrs. Forbes, white; Maud Pitcher, yellow; Florrie and Victoria, mentioned above. Another capital exhibit was Mr. Hy. Weeks' display of five dozen well grown new seedlings, of which Mrs. Barkley, Edith Dashwood, Miss Maud Douglas, Little Nell, Hy. Weeks, and Emily Towers, were the finest examples, and which the Committee recognised by awarding to Mr. Weeks the small silver medal of the Society. Mr. Witty again showed some of his curiosities from Japan, and was accorded a vote of thanks. Other promising novelties were

Mrs. J. A. Baxter, Mrs. Arthur Jack, Mdle. Louise Charvet, a charming rosy pink Japanese, but not large; and Miss Nellie Threlfall, a large white incurved.

THE DISQUALIFICATIONS OF THE N.C.S.

THAT the Judges could not go from the ruling of the Classification Committee none can dispute, but among other incurved which are included in the list of "too much alike" varieties, and which are prohibited from being shown in the same collection, are C. H. Curtis and Major Bonnaffon. In the "Year Book of the N.C.S." the descriptions given would lead anyone to think they were very dissimilar. The former is described as, "Colour rich golden yellow, petals long and pointed; a large deep flower, perfectly incurving, robust; mid-season." Major Bonnaffon is described as, "Pale yellow; large, rather flat, narrow petals, closely incurving; very strong grower, late, and dwarf." Both varieties have been certificated by the N.C.S. as distinct. I do not wish to infer that the N.C.S. is wrong in bracketing these varieties as too much *alike*, but more care should have been exercised by the compilers of the "Year Book."—W. J. G.

THE N.C.S. AND THE AQUARIUM.

MORE than one who has "taken up the cudgels" on behalf of this building as the most suitable place for the exhibitions of the N.C.S., claim that it is due to the place that the "autumn queen" has attained such popularity. May I ask why the various exhibitions which were held in the Aquarium some twelve or fourteen years ago did not make the same progress? I believe the present Secretary of the N.C.S. was the one engaged by the Aquarium Company to organise these shows. Certainly with the same Secretary and the same building they should have been continued and been a great success if there is any truth in the argument used in favour of the Aquarium in the present instance. It looks as if the N.C.S. has been able to supply better paying exhibitions for the Aquarium Co. If the Crystal Palace is too far away for the public to visit the exhibitions of the N.C.S., why do the many thousands visit the various cycle, poultry, and other shows?—A. B. C.

HYBRID CHRYSANTHEMUMS.

It may seem very ungenerous to make the suggestion, but I think many will agree that we are getting overdone with autumn blooming Chrysanthemums. The season of flower begins early in August, and runs down to the end of the year, and as the autumn wanes the flowers become more and more in evidence until, for the time, it seems as if gardening were limited to the culture of the Chrysanthemum, and nothing else. Much as I admire the beautiful Japanese forms of Chrysanthemum, I find it to be possible to have too much of them, and a profound sense of relief is experienced when their season is over, and they retire into well-earned repose. It may seem somewhat strange, after penning so much, to wish that some one amongst our expert hybridists would endeavour to impress some of the colours and larger flowers of the single autumn bloomers on to the favourite *Marguerite*, *Chrysanthemum frutescens*. That these latter rank amongst the most useful as well as most popular of bedding, pot, or decorative summer plants we have, there can be no doubt.

But charming as they are in every respect there is room for colour development, and could we but have added to the present white and pale yellow tints some of those fine colours found in the single Chrysanthemums, and especially as seen in the single *Pyrethrums* of our gardens, how wonderfully beautiful would they be. Were it not that the autumn-blooming Chrysanthemums produce huge blooms, and these are so helpful to win prizes—the love of prizes largely dominating real love for flowers—we should see them little grown. Very few of them, except for a limited time in the late autumn, are useful for garden decoration. *Chrysanthemum frutescens* is essentially a garden decorative plant, and any addition to the present limited colour range of its flowers would be most warmly welcomed.—A. D.

M. CALVAT'S SEEDLINGS.

DURING our visits to the parks, the nurseries, the floral and other meetings, we have had ample opportunities of seeing many of the most recent novelties of this grower's raising. We have also noticed, with no small degree of interest, that although for seven years he has had no rival worthy of the name, there are some signs that our own Colonial growers in Australia, to judge by the samples they have sent us during the past few seasons, may enter the lists with the eminent Frenchman.

But still the vast numbers of M. Calvat's seedlings are everywhere to be reckoned with, and those of the past year, to say nothing of preceding ones, are very much *en evidence* wherever we have been. In very good form especially is *Werther*, a grand highly coloured variety of considerable merit; *Souvenir de Madame F. Rosette* is common; *Topaze Orientale*, a lovely yellow large incurved, is also frequently to be met with; N.C.S. Jubilee, *Souvenir de Malines*, *President Nonin*, *Soleil d'Octobre*, the green *Madame Ed. Roger*,

Iscrette, Mdle. *Lucie Faure*, *Madame Perlat*, and several more, all help, in this their second year, to maintain their raiser's well-earned reputation.

The 1898 set will undoubtedly contain some very noteworthy additions to our collections, and of these President Bevan and M. Fatzer will dispute the place for first. *Le Grand Dragon* is a fine deep golden yellow, and will no doubt be much admired. *Général Paquie* is a beautiful warm shade of golden terra-cotta, but not large, and the same observation applies to *Madame Robert Massy*, which is of a pretty velvety carmine amaranth. *Marie Calvat* is very large, but rather loose in build. *Madame Couvat de Terrail* is a very promising one, and to it may be added Mdle. M. Expulsion, a large white; *Melusine*, *Secrétaire Rivoire*, and a very charming yellow called *Tatiana*. All these in their first season give promise; probably some of the others may do so next year when they have been tried a second time, for the past summer has certainly not been one of the best for the trial of new and unknown varieties.—C. H. P.

SINGLE CHRYSANTHEMUMS.

AFTER looking over the immense number of big Japanese and incurved Chrysanthemums at any of the leading exhibitions, it is somewhat of a relief to survey the smaller varieties, and also the singles. There are among the latter a number of useful, pretty, and attractively coloured varieties. A good stand of well selected colours, with the blooms arranged in threes, each trio of one variety, forms a most pleasing exhibit. The single Chrysanthemum does not appeal to the popular taste, chiefly because the blooms are only furnished with one or two rows of petals. When, however, they are well developed, fresh, and of good colour, also of medium size, they are specially attractive for decoration, surpassing large and heavy blooms belonging to other classes.

During recent years many excellent additions have been made to the previously limited number of single varieties, until now nearly all colours are represented in this section as in others. The size, too, of the individual blooms has increased, and there are now many as large in size as *Admiral Sir T. Symonds*, which for a long time occupied the leading place among singles. That they are advancing in public favour there is not the slightest doubt. There are always people who can appreciate beauty, and good single Chrysanthemums are charming in form, lightness, delicate outline, and rich colouring.

Those who have to provide cut flowers largely should grow them in quantity for this purpose. The blooms ought to be highly appreciated, as they will furnish variety, and by contrast with others in a bouquet or basket of flowers, insure a better combination of form and colour.

The cultivation of single Chrysanthemums is comparatively easy. Propagation by cuttings is the best, and may be carried out in the early months of the year; February and March are suitable. Seven or 8-inch pots are large enough to flower the plants in. Grow them similarly to other varieties, but allow only terminal buds to develop blooms, as these give the best, clearest, and most perfect flowers. Early November is their usual time of blooming. The following is a good selection of varieties:—*Admiral Sir T. Symonds*, clear yellow, long broad petals; *Orange Beauty*, bronze and yellow, folded petals; *Oceana*, blush; *Purity*, white, petals incurved at points; *Springfield Beauty*, beautiful amaranth, broad, gracefully drooping petals; *Alphonso*, pale flesh colour, very large broad petals; *Miss A. Mumford*, yellow with crimson edges, extremely pretty; *Framfield Beauty*, dark crimson, broad petals; *Ewan Cameron*, white, broad petals; *Miss Brown*, rosy salmon; *Lady Churchill*, terra cotta, fluted petals, points open and flat; *Jane*, pure white; *Rev. W. E. Renfrey*, crimson maroon, broad petals; *Mrs. G. Rennie*, blush and purple; *Standard*, deep pink, silvery reverse, broad long petals; *D. Windsor*, chestnut red; *Earlwood Glory*, white; *Miss Walton*, pink; *Mrs. Forbes*, white; *Emmie*, blush; *Edgar Forbes*, chestnut; *Maud Pitcher*, lemon yellow; *Crown Jewel*, deep orange; *Bessie Conway*, white, tinted pink; *King of Siam*, crimson; *Milly Agate*, blush; *Yellow Jacket*, bright yellow; and *Miss Mary Anderson*, white.—E. D. S.

AT BAGLAN HALL.

A FEW words about a visit to Baglan Hall, Glamorgan, S. Wales, the country seat of Mrs. Llewellyn, may interest those who reserve a portion of their hearts to the fascinating Autumn Queen, which, by its beauty, attracts thousands of admirers. It was a lovely morning after heavy rain, and we were met on arrival by the genial and skilful gardener, Mr. Gilbert, who afforded us much pleasure in describing various methods he practised with different varieties to insure the most beautiful blooms. The Chrysanthemums were arranged in a handsome conservatory. The finest of all, to my fancy, was *Phœbus*; another superb bloom was *Primrose League*, and its sport *A. H. Woods*. *Lady Ridgway*, with florets of extra width, while *Graphic* and *President Nonin* were grand. R. Powell was in good form, as was *Lady Byron*, while the new *Mary Molyneux* was superb. *Master J. Epps*, *Duke of Wellington*, *Mons. Chenon de Léché*, *Elith Tabor*, *Pride of*

Exmouth, and Australie were superior to the general standard. S. W. Gilbert, named after Mr. Gilbert, is not unlike Edwin Molyneux, but has a silvery reverse. Hairy Wonder, Modesto, Geo. Seward, Madame G. Bruant, Mr. G. Carpenter, Mrs. J. Lewis, Oceana, and John Seward were amongst the most striking. Mrs. Llewellyn is a great lover of flowers, especially Chrysanthemums.—VISITOR.

AT ABBEY PARK, LEICESTER.

THIS prosperous town (perhaps soon to be a city) is fortunate in possessing a public park upon which money has been freely yet wisely spent. Its able superintendent, Mr. J. Burn, under whose skilful direction it has been laid out, has watched its progress of development from a dreary waste into a beautiful public resort, where thousands can enjoy its varied beauties throughout the year. Like all up-to-date public parks it has its Chrysanthemum show to enliven the dull days of autumn. When these popular shows are waning in the South they are in full beauty in the Midlands, hence the lateness of visit to see the Chrysanthemums at Abbey Park.

A splendid house is at command for arranging the plants in. It is a large span-roofed structure. The central space is filled with gigantic Palms and Dracaenas, the Chrysanthemums being arranged in a bank around them, and on side stages, leaving a commodious pathway round the house, which enables the host of visitors to inspect the flowers with ease. A strong feature of the collection is a large number of dwarf plants in 6-inch pots, each carrying one fine flower and leafy foliage to the rim of the pots. These late-rooted plants should receive more general attention, as they add such a finish to groups of all descriptions. Bush plants, carrying a profusion of flowers, are intermixed with others carrying large blooms. The combination is a happy one, as it shows the adaptability of "the Queen of Autumn." When one notes a deep full flower of such fine varieties as Australie or Chas. Davis growing beside bush plants of the same variety, to the uninitiated it seems scarcely possible that the varieties are identical.

Conspicuous among many fine flowers were good examples of President Borel, International, Mad. Carnot, Vivian Morel, Mrs. Weeks, and Rose Wynne. Inanza, a variety new to me, of deep chestnut colour, gave promise of being a good thing; John Shrimpton and Mrs. Childs are still retained in the collection on account of their rich colours. Collectively the show is a very bright one, and cannot fail to give a great amount of pleasure to the numbers who flock to see it, as well as to stimulate them to attempt—in some form or other—the culture of the "Golden Flower."—H. D.

CHRYSANTHEMUMS IN THE NORTH.

ALLERTON HALL, GLEDHOW.

At the residence of Mrs. Bowering the collection of Chrysanthemums is under the management of Mr. Moore, and it has become famous in the Leeds district owing to the high position in the prize list attained at the Leeds Show. The plants occupy a considerable length of Peach casing, besides a large number filling an airy lean-to greenhouse. In this structure the blooms were opening finely on the well-timed plants.

The following varieties were noteworthy:—Japs: Probyn, Emily Silsbury, Lady Ridgway, Mrs. H. Weeks, Modesto, Lady Byron, Madame Gustave Henri, Mrs. G. Palmer, Oceana, Phœbus, Mrs. H. Payne, Australie, Le Mouchette, N.C.S. Jubilee, Edith Tabor, Mrs. Briscoe-Ironside, Dorothy Seward, Western King, and Lady Hanham. Incurred: The Queens and Princess of Wales types were showing well timed buds, as were Perle Dauphinoise, Miss Dorothy Foster, Globe d'Or, Chas. H. Curtis, Madame Darier, John Salter, Mrs. F. Gardiner, and Mrs. R. C. Kingston.

GLEDHOW HALL.

The seat of Sir Jas. Kitson, Bart., is situated in a beautiful and picturesque district, and the gardens are extensive and well managed by Mr. W. Grix. The Chrysanthemums are rather later than are those at Allerton Hall, which is only a short distance away. The following were developing clean fine buds, giving great promise:—Japs: Elthorne Beauty, Lady Byron, Pride of Madford, Western King, Mrs. Hume Long, Rose Wynne, Duchess of York, Australie, Mrs. W. H. Lees, Emily Silsbury, Secrétaire Fierens, Oceana, N.C.S. Jubilee, Madame G. Bruant, John Seward, Edith Tabor, and Mrs. H. Weeks. Noteworthy amongst the incurred were Rose Owen, Ernest Cannell, Miss D. Foster, J. Agate, Duchess of Fife, and most of the Queen type.

BANKFIELD, BINGLEY.

This is the residence of Mrs. Henry Mason, and for many years the gardens have been under the superintendence of Mr. Midgley. The Chrysanthemums are at least equal to the best coming under our notice this season, and look as formidable as last year, when Mr. Midgley won all along the line, in both the open and local classes, at Bradford Show. Nearly every bloom in the collection, filling the

conservatory and adjoining large vinery, is worthy of a position on the show boards, the following being noteworthy:—Mr. A. F. Bevan, Phœbus, Edith Tabor, Pride of Madford, Louise, Duke of Wellington, Pride of Exmouth, Mrs. J. Lewis, Pride of Maidenhead, Probyn, Mrs. Maling Grant, E. Molyneux, Rita Schroeter, Julia Scaramanga, Vicar of Bray, Souvenir de Malines, Madame Gustave Henri, Simplicity, President Nonin, Mons. Gruyer, Sunstone, John Seward, Eva Knowles, Lady Byron, Modesto, G. J. Warren, Mons. Chenon de Léché, Richard Dean, and Western King.

GRANVILLE HOUSE, FRIZINGHALL.

The collection of Chrysanthemums at Granville House, the home of Dr. Smith, is very rich in new varieties, no expense being spared to make it interesting from that point of view. Although the residence is situated within the influence of the Bradford smoke, the plants and flowers are as creditable as most collections more favourably situated. The plants are fairly strong, carrying dark green healthy foliage to the bottom, and the blooms are developing finely, and fill two divisions of a roomy detached conservatory. A grand stock of May-rooted tops are developing fine flowers at the height of 15 to 24 inches from the pot top. The following varieties were worthy of high commendation:—Mrs. N. Molyneux, Vicar of Bray, Matthew Hodgson, M. G. Bruant, Chenon de Léché, Louise Remy, Em. Silsbury, Mrs. G. W. Palmer, President Nonin, Madame Ferlat, Milano, Lady Isobel (a very promising incurved), N.C.S. Jubilee, Phœbus, Australie, Duke of Wellington, C. W. Richardson, C. H. Curtis, Soleil d'Octobre, Mrs. J. Ritson, Richard Brookes, Lady Byron, Mrs. W. Mease, Lady Hanham, Madame Ed. Roger, Globe d'Or, Le Dauphinoise, Iserette, Snowdon, and M. Massange de Louvrex.—T. G. W.

AT MAIDENHEAD.

THE late Mr. R. Owen, whose name during his lifetime was very closely identified with the Chrysanthemum, has left as successors his two sons, Messrs. W. & R. Owen, whose collection we visited recently, and found it quite as extensive and interesting as in bygone years. There are seven or eight greenhouses full of all the best novelties, but in addition to these there are many new unnamed seedlings under trial. Some of these are incurved, others are Japanese, and both in colour and form may be regarded as valuable acquisitions.

Of these seedlings we specially noted one which was recently certificated by the R.H.S., called Lord Cromer, a most striking new Japanese, which is of a rich velvety reddish crimson with a golden reverse, and makes up a bloom of great size. Madame J. Tossal is a continental Japanese with very long narrow florets, twisted and curly at the tips, a hairy novelty of a pale lilac mauve with silvery pink reverse. Duke of Wellington belongs to the massive type of Japanese incurved; colour golden bronze.

There is in the Maidenhead collection a fairly representative selection of home, colonial, and continental varieties, and we specially noticed a new Japanese called Madame Everard, a large flower with flat florets, white, tinted yellow in the centre; Mozart, also a Japanese of a very rich deep shade of golden yellow; Royal Standard, large Japanese of dazzling crimson; Owen's Memorial, another of the same colour, but more of the Edwin Molyneux type as regards form; and Mrs. C. Herrin, a white Japanese incurved, with numerous narrow grooved florets, colour white.

Miscellaneous novelties from various sources are represented by some fine blooms of W. Bardney, a large Japanese incurved with broad florets, of a velvety pale purple amaranth and silvery reverse; Mrs. Philip Mann, a sport from Charles Davis, being of a golden yellow shade flushed pale crimson; and also of the big white Japanese, Mrs. H. Weeks, and several equally good ones of the deep yellow Carnot sport called G. J. Warren. Close by is another rather striking-looking flower named David Inglis, with medium-sized florets; colour deep crimson with golden reverse. Lucine is a large white Japanese, very full and double; and Cameo, which is the next to attract our notice, is of a charming shade, pale flesh pink, but belongs to the incurved type, and is a good deep flower. In one corner stands a plant of Glory of the Pacific, a very free-flowering useful Japanese, not unlike the Christine family in form, but of a white colour tinted lilac. This is regarded as a useful variety for decoration or grouping.

In another greenhouse we saw some good examples of Mrs. Chas. Birch, a Japanese incurved, slightly hairy, pure glistening white; Glory of Maidenhead, a fine Japanese with flat florets of medium width, colour a peculiar shade of metallic crimson, reverse golden. The new Mary Molyneux, large pink; Mr. Chas. W. Cox, creamy white; Mrs. H. Perkins, also white; Mr. W. H. Grenfell, deep lilac rose, are all more or less likely to attract the visitors' attention.

Among incurved, one of the most regular and perfect in form is C. S. Bates, a deeply built flower of a pure golden-chrome yellow. In the same section we noticed Pearl Palace, a good-looking globular form, deep and solid, colour pinkish lilac. Another of this type is Mrs. W. C. Egan, a deep solid built flower, colour pink.



WEATHER IN LONDON.—South London was visited on Thursday morning last with a fog of the peasoup variety, which rendered locomotion difficult, and the aid of lamp or gas within doors a necessity. Friday was fine, but a cool wind prevailed throughout the day. Saturday and Sunday again were fine; but the latter day was dull, and somewhat milder. Monday was a decidedly rainy day. Tuesday brought a cold north wind with a sharp white frost. On Wednesday came another change, for rain fell incessantly from early morning up to going to press.

BULLFINCHES.—These promise to be a great trouble later if not caught in the autumn. I have already trapped forty-two in one spot in my garden this autumn, about double the number I caught all last winter.—J. H.

NATIONAL DAHLIA SOCIETY.—The annual meeting of the National Dahlia Society will be held, by permission of the Horticultural Club, in their rooms at the Hotel Windsor, Victoria Street, S.W., on Tuesday, December 13th, 1898, at 2 p.m.

NATIONAL AMATEUR GARDENERS' ASSOCIATION (LIVERPOOL BRANCH).—In the midst of what, a few months ago, seemed a fading society, the members of the above branch have taken a very energetic view of matters, and realising the loss that would accrue from its being disbanded, have enrolled new members. At a recent meeting the attendance was larger than we ever remember seeing. At the opening an interesting event took place—viz., the presentation of the parchment conveying the degree of Fellow of the N.A.G. Association for services rendered to amateur gardening, this being presented to Mr. Langley, the recipient, by Mr. J. H. Drake in a few graceful words. Mr. Langley briefly replied. A capital paper was then read by Mr. Langley on "The Cultivation of the Camellia." An interesting account of a visit paid to Mr. Langley's Begonias was narrated by Mr. Smyth. The show of cut blooms by Mr. Langley was of high quality, and gained a certificate. Messrs. Guy, Lun', and Matthias were the other principal winners.—R. P. R.

ROYAL METEOROLOGICAL SOCIETY.—The opening meeting of the session was held on Wednesday evening, the 16th inst., at the Institution of Civil Engineers, Great George Street, Westminster. Mr. F. C. Bayard, L.L.M., President, in the chair. A report on experiments upon the exposure of anemometers at different elevations was presented by the Wind Force Committee. The experiments have been carried out by Mr. W. H. Dines and Capt. Wilson-Barker, on board H.M.S. "Worcester," off Greenhithe. Capt. D. Wilson-Barker read a paper giving the result of some observations which he had made on board ship with several hand anemometers, with the view of comparing the estimated wind force with that indicated by instruments. Mr. W. Marriott exhibited some lantern slides, showing the damage caused by the tornado which burst over Camberwell about 9.30 P.M. on October 29th. The damage was confined to an area of about half a mile in extent, and within that space chimney stacks were blown down, houses unroofed, trees uprooted, and windows broken.

THE R.H.S. AND VICTORIA MEDALLISTS.—An extremely neat and attractive diploma has been issued by the Royal Horticultural Society to the sixty horticulturists on whom the V.M.H. was conferred in commemoration of the sixty years' reign of the most illustrious monarch in the whole wide world. Under the Royal Arms and impressions of the medal is the following inscription on vellum:—"Whereas it has graciously pleased Her Majesty the Queen, Empress of India, to assent to the establishment by the Royal Horticultural Society of the Victoria Medal of Honour in Horticulture, in perpetual commemoration of the 60th year of Her reign. This is to make known that we, the President and Council of the Society, have conferred the said medal upon our right worthy Fellow, EDWIN MOLYNEUX. Given under our common seal, this 26th day of October, 1897. Signed, TREVOR LAWRENCE, President. W. WILKS, Secretary." We insert the name of Mr. Molyneux, not only because it is appropriate to Chrysanthemum time, but because we think he is fortunate in being the youngest horticulturist on whom the distinction was bestowed. This formal conveyance of the Victoria medal cannot fail to be appreciated by the whole of the recipients.

WINTER MOTHS.—Mr. J. Hiam writes—"The winter moths are now busy in the evening, and are being caught on grease bands. I look upon the last fortnight in November as the time when most are caught, and on to the end of the year in decreasing numbers."

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—Mr. F. G. Treseder, Chairman of the Cardiff Chrysanthemum Society, has forwarded a cheque for £5 15s., being the amount realised at a "stall" held at the recent Chrysanthemum exhibition at Cardiff in aid of the above Institution.

ARAUCARIA EXCELSA.—Difficulties frequently arise in obtaining suitable plants for growing as specimens in conservatories, corridors, and large cool houses, where the light and other conditions are not favourable for the welfare of plants that are exacting in these requirements. The Norfolk Island Pine makes a fine permanent specimen, and in a conservatory I recently saw half a dozen of these ornamental Pines growing in tubs, and very effective they were. The house was altogether unsuitable for the welfare of plants of a tender character during the dullest time of the year, and as it had to be kept continually furnished, the specimens of *Araucaria excelsa* played an important part. The habit is graceful and the trees are of sturdy character. These attributes render them very suitable for the purpose named.—G.

FATSIA JAPONICA.—Although this plant is usually regarded as a foliage plant alone, it is in no way to be despised for the sake of its flowers. Although hardy about London—if not grown in a very exposed position—it is seen to greater advantage when grown in a cool house, and the flowers are protected from the weather. In the temperate house at Kew a plant 14 feet high, with a head 15 feet across, is now bearing nine large panicles of creamy white flowers, and makes a conspicuous object amongst the dark-foliaged plants with which it is surrounded. For large conservatories or winter gardens this will be found useful, as it will grow in dark corners, where many other plants would fail to exist. All the year round there is a wealth of handsome deep green foliage, and in winter the large heads of flowers.—D.

A USEFUL GREENHOUSE CLIMBER.—White flowers are always in request, and any climbing plant that serves the double purpose of being effective when in a state of growth, and also provides a quantity of cut bloom, cannot fail to be useful. *Mandevilla suaveolens* possesses both these good qualities, and is one of the most useful climbers we have for greenhouse or conservatory. Its sweet white flowers are borne in clusters on long stalks, and are therefore useful for decoration, and are effective for making up in wreaths or bouquets. The plant is a robust climber, very suitable for a cool house, and in a light, sunny position, flowers profusely. It is necessary to thin out the growths annually, or they soon become matted. *Mandevilla suaveolens* is best planted in a border where it may have a free root run, though it need not necessarily be extensive. Care should be taken in handling the flowers for any purpose, as they are delicate and very susceptible to bruising.—H.

THE SHERWOOD SILVER CUP.—I have grave doubts whether the proffer by the R.H.S. Council of the Sherwood silver cup next year to collections of vegetables shown on two specified dates, in June and September, at the Drill Hall, is likely to arouse much interest. The competition for it during the passing year in connection with annuals was a distinct failure so far as competition was concerned, although one or two very fine displays of annuals were seen. But vegetables are never exhibited in competition by seedsmen or nurserymen. They are invariably presented by private gardeners, and now and then, though very seldom, by an amateur, in the strict sense of the term. But private gardeners have not, in exhibiting vegetables, the same objects to serve that traders have. For any of the latter to win a Sherwood cup must be a good advertisement and a certain pecuniary reward. The gardener has no such stimulus, and he well understands that if there be several collections in competition the chances of winning any pecuniary reward are nil, and of even securing the cup, spread as it is over two distinct competitions, but as twelve to one. Very much depends, too, on the nature of the class, as eventually provided in the Society's schedule. It should not be forgotten that very valuable silver cups, besides good money prizes, are common now in the country for collections of twelve kinds or dishes of vegetables, with some three or four other good money prizes in addition for less fortunate competitors. It is thus obvious that the offer of a silver cup alone for collections of vegetables does not hold out much inducement for our best growers, the gardeners, to compete. Vegetables are very heavy, and where they have to be brought long distances by rail are costly carriage. If the R.H.S. could add £10 in cash prizes to the cup each time no doubt good competition would result.—A. D.

— **HYACINTHS AND ONIONS ON THE STOCK EXCHANGE.**—Intense enjoyment is derived by the miscellaneous mining market from its new Hyacinth game. About a week ago two of its members entered into a competition as to which would grow the best Hyacinths. The bulbs were duly bought, but the matter getting noised abroad, those of one competitor were abstracted, and Onions substituted. The bulbs were taken home to be planted, but the household of the victim discovered the "plant," and the event has now been embodied in a song by the market poet. To the tune of "Poor Cock Robin" the elegant stanzas are poured forth with immense effect.—("Westminster Gazette.")

— **COVENTRY SHOW.**—The fourth annual Chrysanthemum show was held in the Market Hall, Coventry, on Tuesday and Wednesday, November 8th and 9th. The entries were larger in number than in any previous year, and the attendance of the public on the opening day was a record one. The principal prizes for the large groups were taken by Sir R. Moon (gardener, Mr. Morris), W. Herbert, Esq. (gardener, Mr. Blake), G. Singer, Esq. (gardener, Mr. Collier); and for cut blooms by Arthur James, Esq., Sir R. Moon, W. Herbert, Esq., G. Singer, Esq., and J. K. Starley, Esq. Large bush plants were also well in evidence, and there was a considerable collection of fruit and vegetables, and honorary exhibits from Mr. Martin, gardener to Lord Leigh, as well as from Mr. W. Finch and Messrs. Kimberley & Son. The Secretary of the Society, Mr. F. Curtis, had a stand of horticultural sundries.

— **HOUSE PLANTS REQUIRING BUT LITTLE CARE.**—Busy people will find the following abbreviated list valuable as representing plants that are easily cared for. No house plant can be considered a lazy man's plant—all should have some daily attention; but those mentioned bear up well under adverse circumstances. Rubber Plant, both variegated and green; *Dracæna*, variegated and green; *Cypripedium insigne*, a satisfactory species of Lady's Slipper Orchid, the flowers of which last from four to six and eight weeks; Chinese Primulas; Begonias, Umbrella Plant, or *Cyperus*, in several kinds; Geraniums; *Peperomia*, *Ardisia*, *Cyclamen*, *Ophiopogon japonica*, *Pandanus utilis*. Limiting the number to sufficient for placing around in rooms, in houses of average size, the suggestions are sufficient with the addition of the interesting Dutch bulbs, such as Hyacinths and Narcissi. Palms, of course, are indispensable, though somewhat burdensome to clean when attacked by scale.—("Meehan's Monthly.")

— **A VICAR'S FORTUNATE DECISION.**—A correspondent writes to a daily contemporary:—"A lucky escape for a vicar is reported from a Buckinghamshire parish. When the Technical Education Committee of the County Council of Bucks offer prizes for allotments the condition is made that the prizes shall be given in kind, and not in money, though each prizewinner is allowed to choose (subject to the approval of the Committee) how his prize shall be laid out. At a meeting of the local Committee in one of the neighbouring parishes of Aylesbury it was proposed that the prizes should be sent to the vicarage and the prizeholders be assembled on a given day to receive them. The vicar, though taking an active part in any scheme for improving allotments, was obliged to say nay to this proposal. It is well he did, for the prizes chosen included 9 tons of coals, several lots of tools, drapery and boots, two loads of soot, and one of manure, some sacks and some meal, and lastly a suit of clothes and a set of harness, all of which, according to suggestion, would have been deposited at the vicarage."

— **PLANTS AND AIR ACTION.**—Plants respire carbonic acid gas chiefly in the form of aqueous vapour (the same form in which it is discharged from the lungs). This aqueous vapour, says "J. M." in the "Madras Mail," is discharged through the lungs of the plant—namely, through the stomata. But the stomata practically close during complete darkness, so that there cannot be any appreciable discharge of aqueous vapour (carbonic acid gas) through the closed orifices. If anyone will test the temperature of foliage at night he will find it to be much lower than the temperature of the surrounding atmosphere, a process of radiation going on from the foliage to form the dew. Now no appreciable amount of aqueous vapour can be formed within the foliage of plants unless their surface temperature be at least equal to that of the surrounding atmosphere. In warm rooms the orifices of the stomata may not close altogether, and hence a discharge of carbonic acid gas. The excess of carbonic acid gas supposed to be given off by plants in a room at night arises from the decomposing process going on in the soil in which the plants are growing. Similarly in woods and forests, an excess of carbonic acid gas is given off from dying or decaying vegetable matter in the absence of the oxygenating influence of sunlight, not as aqueous vapour, but as pure carbonic acid gas. On a moonlight night plants give off an appreciable amount of carbonic acid gas.

— **SUMMER SHOW SCHEDULES.**—Mr. Wm. Drewett, Ceres House, Kingston-on-Thames, will be greatly obliged if secretaries of summer flower shows will send him a copy of their schedule. His desire is to obtain such as are used for exhibitions of moderate pretensions, largely for amateurs, and held at the latter end of June.

— **POLYGONUM CUSPIDATUM.**—This perennial is not nearly so much cultivated as its merits deserve. Amongst the ordinary members of the herbaceous border its growth is rather too strong, while if allowed to extend at will it will quickly smother any plant near. Under good culture it reaches a height of 8 feet, and in the shrubbery it is useful for filling gaps. Its white Spiræa-like drooping blossoms, produced from the axils of the leaves, give variety in September and October, when flowers in that part of the garden are often scarce. As a hedge plant or summer screen it is capital. The ideal position, as for *P. sachalinense* is in a mass by the water-side, for which its semi-drooping character eminently fits it. The moisture derived from its close proximity to water aids growth considerably. So freely does this variety spread when once thoroughly established that a large colony can quickly be assured by dividing the roots.—E. M.

— **HOYA BELLA.**—Rarely does one meet with this charming little stove flowering plant, and yet it is one of the most elegant of the Hoya family. It is by no means so robust and accommodating as the commonly grown *Hoya carnosa*, and this may be the reason why it is not more widely grown. The flowers, however, are chastely beautiful with their white waxy petals and star-shaped centres of chocolate hue. The scent is sweet and the flower is very useful for buttonholes. A warm stove temperature suits the plant well, and it may be readily increased by propagation from cuttings. When grown in 5 or 6-inch pots and the growths tied to neat stakes this Hoya makes a very pretty specimen when in bloom. As the foliage is apt to get very dirty continual syringing is necessary, and a sharp watch must be kept for mealy bug, to which it is very subject, and as the leaves are small and brittle the plants are difficult to clean. A fairly light soil containing peat and a free scattering of silver sand is a suitable mixture for this elegant Hoya.—H. H.

— **MARKET APPLES.**—There was no exhibit which attracted or merited so much attention, seen at the recent Twickenham Chrysanthemum Show, as the very fine exhibit of Apples grown for sale and sent by that well-known market grower, Mr. W. Poupart. These were arranged chiefly in flats and rounds, the fruits being well elevated and pleasingly dressed with leaves. There were some thirty baskets in the group, and the varieties included of cookers Wellington, Bismarck, Lord Derby, Altriston, Peasgood's Nonesuch, Warner's King, Hollandbury, Lane's Prince Albert, Cox's Pomona, Annie Elizabeth, Waltham Abbey Seedling, Golden Noble, Betty Geeson, Newton Wonder, The Queen, Mère de Ménage, Schoolmaster, and Lady Henniker, eighteen varieties, all fine samples; and of dessert, Ribston Pippin, Court of Wick, King of the Pippins, Cox's Orange Pippin, Rosemary Russet, Baumann's Red Reinette, and Mother Apple, with some fine Pitmaston Duchess Pears from pyramids. Not less interesting was a bundle of first-rate Seakale, beautifully blanched, showing how early in the winter this most useful vegetable can be had ready for use. The presentation of such a collection of Apples from a market garden in the middle of November shows that Mr. Poupart is well to the front in the culture of our great national fruit.—A. D.

— **ORCHARDS AND VINEYARDS IN VICTORIA.**—In a return of orchards and vineyards just issued by the Acting Government Statist, Mr. J. F. Fenton, the number of Vine growers in the colony of Victoria, Australia, is given at 2364, showing a decrease from the previous year of 239. The area of bearing Vines is 24,772 acres, or an increase of 931 acres. The produce of Grapes was 456,897 cwt., showing a decrease of 144,156 cwt.; and the vintage of wine 1,912,639 gallons, or 909,624 gallons less than in the previous year. Raisins made for the year total 1,480,882 lbs., which is an increase on the previous season of 217,994 lbs.; and Currants 51,746 lbs., or a decrease of 33,643 lbs. The number engaged in growing fruit for sale is given at 3876, as compared with 4067 for the preceding year, and the total acreage under fruit 31,415 acres, as compared with the previous year's 32,030 acres; while the large fruits gathered are returned at 442,286 cwt., small fruits 18,950 cwt., and nuts 53,133 lbs. Dried fruits are totalled at 305,502 lbs., comprising Apples 2103, Prunes 7851, Peaches 59,420, Apricots 220,757, and Figs 35,371 lbs. respectively. The number of Hop growers is reckoned at 149, or two less than last year. The area under Hops is 918 acres, as compared with a previous 945 acres, and the total yield 3628 cwt., which, compared with the preceding season's crop, shows a decrease of 2555 cwt.

CHRYSANTHEMUM SHOWS.

BELFAST.—NOVEMBER 15TH AND 16TH.

THE tenth annual show of the Ulster Horticultural Society was held on the above dates, and a very handsome display was made. It will be remembered that this Association holds the record for giving the greatest amount of prize money in one class, and naturally the exhibition is well supported by eminent English, Scottish, and Irish growers. Not only were many splendid blooms staged in the several classes, but plants and miscellaneous non-competitive exhibits were excellent throughout, as well as widely diversified in character. Fruits were shown largely, both in the form of honorary exhibits and competition, and the Society is to be highly congratulated on the results of its efforts to bring together a thoroughly representative display. We can, unfortunately, only afford room to name the successful competitors in a few of the principal classes.

The coveted premier position in the class for forty-eight Japanese was, we were glad to observe, annexed by a resident of the Emerald Isle in Mr. J. McKellar, gardener to Lord Ashbrook, Duroon, who staged magnificently. Examined closely and critically very few weak flowers were to be found, the vast majority of the blooms being deep, solid, heavy, fresh, and splendidly coloured. Where all were good it is almost invidious to make a selection, but International, Mrs. White Popham, Mrs. Mease, Phœbus, Lady Hanham, Edith Tabor, Australie, and N.C.S. Jubilee were superb. The second position went to Mr. T. Lunt, gardener to A. Stirling, Esq., Keir, Dunblane, who was in great form, as, indeed, was Mr. H. Perkins, gardener to the Hon. W. F. D. Smith, The Greenlands, Henley-on-Thames, who was placed third. Thus the three leading awards went respectively to Ireland, Scotland, and England.

Mr. J. McKellar also secured the chief award for twenty-four incurved with a beautiful stand, comprised of several of the leading varieties in a clean, compact, and well-coloured condition. Mr. J. H. Robinson, gardener to T. H. Torrens, Esq., White Abbey, was a most creditable second. Mr. S. Hutchinson, gardener to F. Watson, Esq., Lurgan, was third. For a similar number of Japanese Mr. R. McKenna, gardener to Lady Howard Bury, Tullamore, was a splendid first, and was followed in the second and third positions by Messrs. J. Lyttle, gardener to J. McStay, Esq., Hannahstown; and Mr. W. J. Mitchison, gardener to Col. C. F. Crichton, Ballymore, in the order in which their names are here given. Mr. T. Bradshaw, gardener to the Marquis of Downshire, Hillsborough, was the most successful exhibitor of twelve incurved, distinct, with a neat, even stand. The second position was adjudged to Mr. W. Hodgins, gardener to J. Torrens, Esq., White Abbey; and the third fell to Mr. R. McKenna. In the class for twelve Japanese, distinct, Mr. J. Reid, gardener to G. H. Brown, Esq., Helen's Bay, was a fine first with a weighty stand. Amongst the most noteworthy prizewinners in the remaining classes were Messrs. T. Cuthbert, gardener to W. Greir, Esq., Belfast; W. Bryan, gardener to W. McCausland, Esq., Belfast; J. McLennon, gardener to Lord Carey, Enniscorthy; and Dr. R. Henry, Comber.

Groups of Chrysanthemums and specimen plants occupied a considerable amount of space, and comprised some exceedingly creditable examples. Amongst the chief prizetakers were Messrs. P. McHaffie, gardener to W. Robertson, Esq., Belfast; J. McIlveen, gardener to R. Tennant, Esq., Rushpark, Whitehouse; R. Draper, gardener to J. D. Barbour, Esq., Dunmurry; and H. Kirkpatrick, gardener to A. D. Lemon, Esq., Strandtown.

As we have previously noted, the non-competitive exhibits were very numerous, exceedingly diversified, and of a very high average quality. One of the most important was that of Mr. Owen Thomas, V.M.H., Royal Gardens, Windsor, who arranged one of his characteristic displays of fruits and flowers. Excellence in quality and staging were the leading features of the Royal exhibit. Mr. W. Wells, Earlswood, was in evidence with Chrysanthemums in good variety and splendid form, as were Messrs. Clibran & Sons, Oldfield Nurseries, Altrincham. Mr. H. Dickson, Belfast, sent a very fine miscellaneous exhibit, and Messrs. I. House & Sons, Westbury-on-Trym, staged a collection of their magnificent Violets. Fruit was beautifully shown by Messrs. A. Dickson & Son, Newtownards. Apples and Pears being particularly noteworthy. Then there were, besides those particularised, a landscape scene from Mr. C. McKenna, Botanic Gardens, Belfast; Apples from Messrs. McGreedy & Son, Portadown; pottery from Messrs. W. McCormick, Monkstown; with several others that it is impossible for us to enumerate.

BRIGHTON.—NOVEMBER 15TH AND 16TH.

THE seventh annual Show of the Brighton and Sussex Horticultural Society was declared on Tuesday, not only by local growers, who might well have been accused of over-enthusiasm, but by others, to be excellent. The year, unfavourable to so many branches of horticulture, has been kind to the flower that cheers us through the winter, and the crowds who visited the Dome and Corn Exchange saw, says the "Brighton Herald," the finest collection of trained plants, both as regards quality and quantity, that the local Society has yet made. Gorgeous semicircles of blooms flanked the Corn Exchange. In the Dome the great rotunda was bordered by a double ring of pyramids and standards of the flowers, while in the midst, somewhat perilously exposed to jostling by the crowd, were four small tables beautifully covered with cut flowers amid foliage plants. The edge of the platform was surrounded with masses, each of one colour, the combined effect of which was bold and striking. Behind this ring of colour sat, during the afternoon and evening, the members of the string band of the 2nd Life Guards, and behind their scarlet uniforms the dark green of tall Palms completed an admirable scheme of tints.

The Judges who had to determine the comparative merits of the great semicircular groups of Chrysanthemums in the Corn Exchange must have had a hard task. The perfection of the flowers themselves and the tastefulness of their arrangement were such that, to the casual eye, the different exhibits appeared of very even merit. But the group in the first class upon which they finally conferred first prize—a cup value 5 guineas, given by Mr. G. Sadler, certainly justified its selection for the honour. It was sent in by Mr. George Miles of the Victoria Nurseries, Dyke Road, and comprised magnificent flowers, amongst which stood up tall Palm, Ferns and a few Dracænas, set with careful regard to effect. The second prize in the same class was taken by Mr. G. Sims, gardener to J. R. Cattle, Esq., Hill Crest, Dyke Road. Favoured by the light from the window, it made a perfect blaze of colour, in which brilliant yellow flowers were chiefly conspicuous. Mr. J. Hill, gardener to J. Clarkson Wallis, Esq., Springfield, Witheane, took the third prize.

The second class of groups, being set at the side of the Corn Exchange opposite the window, had a light not so strong, but more evenly distributed, in which to display its excellencies. It differed from the first class, as far as conditions were concerned, only in size, being limited to an area of some 70 square feet instead of 112. The Chrysanthemums were to be arranged with any kind of foliage plants "for quality and effect." With the first money prize went the Ryeofo silver-gilt medal. This was won by Mr. W. E. Anderson, gardener to B. Parish, Esq., Melodia, Preston Park Avenue. Mr. Edward Meachen, gardener to Mrs. Armstrong, Woodslee, Witheane, had made up a splendid group which gained the second award.

Huge white Japanese blooms were a conspicuous feature of the exhibits in class 3 of the open groups. The space prescribed was the same as in the second class, but no foliage plants were allowed. The first prize went to Mr. H. Head, The Drive Nursery, Hove, and the second to Mr. Geo. Miles, whose flowers, on long stalks, stood out with an individual distinctness that showed them up to the best advantage.

In the Dome the four beautifully arranged tables of cut flowers (in the open division)—the only cut flowers not in the Corn Exchange—immediately attracted attention. The tables were 4 feet square, and were, as the programme said, "to be viewed on all sides." To this end they were so placed in the rotunda that everybody could walk round them. There was not one of the four tables that was not "a thing of beauty and of joy," but the arrangement of Mr. George Miles' flowers was conspicuously superior to that of the rest. The piece of plate presented by Mr. Alfred Bunting for the first prize was won by Mr. Miles. Mr. H. Head's exhibit, which took the second prize, was charming.

Of the large-flowered varieties bordering the platform the white blooms of Mr. Edward Meachen were placed first in the class for four dwarfs (distinct). Mr. J. Hill was second. These two exhibitors stood in the same relations in the class for four large-flowered standards, which were ranged with the pyramids round the rotunda. In the class for four large-flowered pyramids their positions were reversed.

A special certificate given by the National Chrysanthemum Society for the best thirty-six cut blooms in the Show was gained by Mr. Monkham, an exhibitor from Woodford Green, Essex. Messrs. H. Head and R. Kenyon were awarded special certificates for groups, and Messrs. J. Cheal & Son took the local Society's silver medal for their collection of fruit and cut flowers. The display of vegetables and fruit in the Corn Exchange showed a marked falling off in quantity from previous years' results, but the quality of the exhibits, in spite of a most unfavourably dry year, was excellent.

There were no small exhibits in the Dome itself. For the vases of flowers, and for the fruit and vegetables that formed the minor portion of the Show, tables were ranged in the Corn Exchange, at the two ends of which were stalls decked out by exhibitors who were not competing. Messrs. W. Balchin & Son arranged a handsome exhibit, for which the Society's gold medal was awarded. Another non-competing exhibit was that of Messrs. Baldock & Croysdill, of Prince Albert Street. Other exhibitors were Mr. W. Goodliffe, of Worthing, who also gained a silver medal with a mass of choice exotics and Ferns; by Mr. J. Harper, gardener to E. A. Tucker, Esq., Preston, who had Cattleyas; and by Mr. H. Garnett, gardener to Mr. I. I. Fletcher, Preston, who showed a beautiful arrangement of Orchids and Dracænas.

LEEDS.—NOVEMBER 15TH AND 16TH.

ALTHOUGH this fixture clashed with those of York and Hull the open classes were well filled. In the local classes a decided step forward in the cut bloom section was evident, and the groups of Chrysanthemums and miscellaneous plants were of the highest order of merit.

Chrysanthemum groups were very imposing, but necessarily stiff in arrangement owing to the restricted conditions of the schedule. Mr. J. Pettinger, Harrogate, was first, Mr. J. Eastwood was second, and Mr. W. Moore, gardener to Mrs. Bowering, Allerton Hall, Gledhow, third. Ornamental foliage plants were admirably shown.

In the open class, twenty-four incurved, for blooms, the first prize went to Mr. J. H. Goodacre, gardener to the Earl of Harrington, whose stand was composed of the following varieties—Chas. Curtis, Golden Empress, V. Tomlin, Leonard Payne, Austin Cannell, Geo. Haigh, J. Agate, Rose Owen, Mrs. M. Molyneux, Yvonne Desblanc, Empress of India, Madame Darier, R. Petfield, Mrs. Heale, Lady Isobel, and Mrs. Coleman. Mr. J. Thornton, Lumb Hall, Drighlington, was a good second, and Mr. Grix third.

For twenty-four Japanese Mr. Joy, gardener to F. Bowering, Esq., Cardiff, was first with Simplicity, J. Brookes, Ed. Molyneux, Australie, Pride of Exmouth, Eva Knowles, Mrs. G. W. Palmer, Etoile de Lyon,

General Roberts, Madame Carnot, Mrs. Hermann Kloss, Elthorne Beauty, Mons. C. de Léché, Mons. Panckoucke, M. E. Rossette, Mrs. J. Lewis, Vivian Morel, and G. J. Warren. Mr. Goodacre was second; and Mr. Midgley, gardener to Mrs. Mason, Bankfield, Bingley, third. Mr. Goodacre was first for twelve incurved; and Mr. G. Jarvis, gardener to Mrs. Whittaker, Hesse, third. For twelve Japanese Messrs. Clark and Sons, Rodley, were first; Mr. Midgley second; and Mr. Corbett, gardener to Marquis of Normanby, Mulgrave Castle, third.

In the local section the competition with cut blooms was keen, and showed a decided advance on previous years in quality, Mr. Grix winning with a good stand, many of the blooms being superb. J. Agate, Globe d'Or, J. Lambert, V. Tomlin, Chas. Curtis, Lady Isobel, Robt. Petfield, Empress of India, Mrs. Kingston, and Lord Alcester were fine. Mr. Moore was second; and Mr. Eastwood third. For twelve Japanese Mr. Moore was first with Mrs. H. Weeks, Phœbus, Madame M. Ricoud, Lady Ridgway, Australie, Western King, Madame G. Henri, Oceana, Vivian Morel, Chas. Davis, N.C.S. Jubilee, and Lady Byron. Mr. Grix was second; and Mr. Eastwood third. For six Japanese of one variety Vivian Morel, Chas. Davis, and Duke of Wellington won in the order given, to the credit of Messrs. Norman, White, and Grix.

SUTTON COLDFIELD.—NOVEMBER 15TH AND 16TH.

THE thirteenth annual show of the Sutton Coldfield Association upheld the traditions of previous exhibitions. As usual the show was held in the Town Hall. For a bank of naturally grown Chrysanthemums arranged in a semicircle 10 feet by 5 feet, Mr. J. E. Pears, gardener to W. W. Watts, Esq., Manor Hill, was awarded the premier prize. The N.C.S.'s certificate of merit was also attached to the same exhibit. The second prize was bestowed on Mr. A. Jenkins, gardener to W. A. Wills, Esq., Cligate, Wylde Green, for a good arrangement.

Cut blooms were exceedingly well shown, and Mr. J. E. Pears again proved the victor with a stand of twelve very fine Japanese blooms, not less than six varieties, distinct, and among which were four magnificent blooms of Mrs. H. Weeks. The N.C.S.'s certificate of merit was also unanimously awarded to the exhibit. The second prize fell to Mr. A. Jenkins for a meritorious complement of blooms, and the third prize to Mr. C. Lucas, gardener to J. Appleby, Esq., Normanhurst. For twelve incurved blooms, Mr. A. Jenkins secured the first prize with several superior examples, and Mr. W. Walker, gardener to H. Needham, Esq., Gravelly Hill, was placed second. Single varieties were well shown, and Mr. A. Jeffs, gardener to E. Ansell, Esq., Erdington, won the first prize with excellent blooms of Miss Mary Anderson, Miss Annie Holden, and Crimson Gem in bunches, the second and third prizes being awarded respectively to Messrs. A. Jenkins and C. Lucas.

Specimen Chrysanthemum plants, Primulas, table plants, fruit and vegetables were also extensively and well shown in the foregoing section of exhibitors, and Mr. A. Jenkins was awarded the first prize for the best specimen plant in the show, a fine example of Cypripedium insigne with upwards of 120 blooms upon it. He also exhibited, not for competition, six well flowered plants of *Cattleya labiata*.

TWICKENHAM.—NOVEMBER 15TH AND 16TH.

THE annual show of this suburban Society was held, as usual, in the Town Hall, making, if a small, yet a very pleasing display. Miscellaneous plant groups came from Mr. E. H. Fordham, a pretty arrangement; and Mr. Hoskins, gardener to D. Salaman, Esq. In the groups of Chrysanthemums faced with foliage plants, Mr. E. D. Rickwood, gardener to Lady Freake, was first, his flowers being quite fresh; Mr. Hoskins coming second. In the cut bloom classes, Mr. C. Smith, gardener to Wilson Addison, Esq., had the best twelve Japanese and twelve incurved, but there were two competitors only, the other, who was placed second, being Mr. Fitzwater, gardener to F. Braby, Esq. These competitors occupied the same positions in the class for twelve incurved only, Mr. Osman, of Ottershaw Park, coming third. With twelve Japanese, Mr. Smith was first, Mr. Osman coming second, and Mr. Coombes, of Teddington, was third. Mr. Fitzwater had the best twelve trebles of Pompons, Mr. W. Garrod coming second.

With six singles in trebles, Mr. S. Pead, gardener to W. S. Bond, Esq., Surbiton, was first, having very fine blooms, Mr. Garrod being second. With six incurved of one variety, Mr. Fitzwater was first with C. H. Curtis, fair blooms, the same variety placing Mr. Smith second. The latter was first with six Japanese, having very good Mons. Chenon de Léché, Mr. Osman coming second with rough coarse Golden Gate.

Mr. C. Wade of Feltham had the best white Grapes in nice Muscat of Alexandria, and Mr. Osman the best blacks with Alicante, was also first with four dishes of fruit, Mr. Rickwood being second. Mr. Osman also had the best four dishes of Pears, and Mr. Rickwood the best four dishes of Apples, whilst with two dishes Mr. Garrod was first. Miss Mary Clarke had the best dressed dinner table, and the Misses Cole of Feltham, the best table stand and bouquets. Generally the competition was very limited, a condition of things that badly needs amending.

WINCHESTER.—NOVEMBER 15TH AND 16TH.

ONE of the best autumn exhibitions held in the Guildhall was that which took place on the dates named. Cut blooms were of exceptional excellence, and considerable in number; the competition was keen in all classes.

The greatest interest centred in the class for forty-eight distinct blooms, half incurved and the remainder Japanese. Mr. Neville, gardener to F. W. Flight, Esq., Twyford, Winchester, won the premier award

somewhat easily with a capital collection, the incurved being perhaps one of the best stands seen this year. The varieties were Queen of England, Princess of Wales, Mrs. Coleman, Mrs. R. C. Kingston, Ernest Cannell, Madame Ferlat, Ma Perfection, Mrs. N. Molyneux, Austin Cannell, V. Tomlin, M. Martignac, Miss M. A. Haggas, Lucy Kendall, C. H. Curtis, Globe d'Or, Lady Isobel, R. Petfield, Madame Darier, and Lord Wolseley. The Japanese were not exceptionally large, but bright and fresh, and included Mary Molyneux, Madame M. Ricoud, Madame Carnot, Lady Hanham, Australian Gold, J. Chamberlain, Phœbus, Australie, G. Roberts, Pride of Exmouth, Mutual Friend, Secrétaire Fierens, and Rose Wynne. Mr. W. Prewett, gardener to C. A. Pearson, Esq., Frensham Place, Farnham, was a creditable second; and Mr. W. G. Adams, Clarendon Road, Southsea, third.

Mr. J. Wasley, gardener to F. B. Taylor, Esq., Sherfield Manor, Basingstoke, was the most successful in the class for twenty-four Japanese, distinct, winning easily with fully developed specimens of Australian Gold, Mutual Friend, N.C.S. Jubilee, Pride of Madford, M. Chenon de Léché, Phœbus, Mrs. W. H. Lees, Milano, and Madame Carnot. Mr. Neville was second; and Mr. Bowerman, gardener to Mrs. C. Hoare, Hackwood Park, third. Mr. Neville had the best exhibit in the class for twelve incurved, distinct, staging medium sized neatly finished examples of Madame Ferlat, C. H. Curtis, Ma Perfection, Mrs. R. C. Kingston, R. Petfield, Princess of Wales, Miss M. A. Haggas, Topaze Orientale, and V. Foster. Mr. C. White, Southsea, was second. Prizes were offered for twelve white-flowering Japanese, in four varieties. Mr. J. Wasley secured the first place in a stiff competition with creditable blooms of Simplicity, Mutual Friend, Madame Carnot, and Elsie Teichmann. Mr. Neville was a close second. For a like number having bronze or yellow flowers Mr. Wasley was again the leader, as also was he for twelve red, crimson red and gold, in both classes staging creditably.

Groups of Chrysanthemums were a distinct feature of the show, and of undoubted excellence. Mr. G. H. Street, gardener to the Rev. Dr. Fearon, The College, Winchester, once more occupied the place of honour with an exhibit that left little to be desired. The plants were dwarf, having good foliage, capital blooms, and were well arranged. Mr. T. Butcher, gardener to Rev. H. E. Moberley, St. Michael's Rectory, Winchester, was second; and Mr. G. Newman, gardener to Captain Gausson, Twyford Lodge, a close third. Plants suitable for conservatory decoration are always well represented at this show. Mr. G. Cousins, gardener to E. H. Buckland, Esq., Kingsmead, Winchester, was the leading prizetaker with a creditable exhibit. Mr. H. Grigg, gardener to the Rev. Mr. Moorson, Hollyrood Winchester, was a close second. The last named won the leading place for six white flowered varieties, as also did he for six yellows, in all classes staging fine specimens. Mr. A. E. Taylor, Bar End, Winchester, won the premier award for the best standard trained Chrysanthemum with a wonderful example of Madame Marius Ricoud. To this exhibit was also awarded the N.C.S. certificate for excellence of culture.

Non-competitive exhibits were few, but of good quality. Messrs. E. Hillier & Son staged a grand display of Apples and Pears; Messrs. Jarman & Co. of Chard hardy fruit on a smaller scale; and Mr. N. Molyneux, Rookesbury Park, Fareham, several seedling Chrysanthemums. To one—Jane Molyneux, a pure white Japanese—a F.C.C. was awarded.

BIRKENHEAD.—NOVEMBER 16TH.

FEW shows can boast of such a hardworking Committee, or of having such gentlemen connected with it as the President, E. C. Thin, Esq., and Vice-Presidents as C. Gatehouse, Esq., and C. J. Procter, Esq., all ardent horticulturists, and who have the good common sense to render to their poorer neighbours not only their presence, but pecuniary assistance. Mr. Gatehouse taking the opinion of the Committee that the silver cups should be won outright each season, and promising to give one each year, as he believed it was correct to do so, and not to have them distributed over a series of years.

For twelve Japanese and twelve incurved Mr. J. Davies, gardener to E. Ellis, Esq., Dec View, Heswall, was a magnificent first, winning the silver cup given by Mrs. Stitt with a stand which we have not seen, excelled this season. The incurved were remarkable for size and colour. The Japanese were Ella Curtis, General Roberts, Australie, Souvenir de Mad. Rossette, Vivian Morel, M. Chenon de Léché, Mutual Friend, Lady Ridgway, Chas. Davis, Mrs. H. Weeks, Matthew Hodson, and Yellow Carnot. Incurved: Topaze Orientale, Miss D. Foster, Ma Perfection, Lady Isobel, Madame Ferlat, C. H. Curtis, Bynum Schiltges, Duchess of Fife, Rena Dula, Harold Wells, and Mrs. R. C. Kingston. Mr. W. Neish, gardener to J. H. Ismay, Esq., Caldby Manor, was a good second, having fine blooms; and Mr. J. Williams, gardener to C. J. Procter, Esq., Boscobel Nocturnum, third. Another class for twelve Japanese and twelve incurved was won by Mr. Davies with blooms similar to those in the cup class. Mr. Neish followed with very creditable blooms, Mr. J. Williams was third.

In the local classes for twelve incurved and twelve Japanese Mr. Davies was again invincible, his incurved more especially showing the same splendid form. Mr. E. Broady, gardener to W. H. Jones, Esq., Horton Grange, was extremely close in Japanese, and also fine in the incurved for second position. For six Japanese Mr. T. Barber, gardener to G. R. Clover, Esq., Ramleh, Birkenhead, won; Mr. R. Laird, gardener to C. E. de Wolt, Esq., Chetwynd, Oxton, winning with a similar number of incurved. Other local classes were won by Mr. E. Niel, gardener to H. B. Smith, Esq., and Mr. J. Hughes, gardener to Mrs. McLaren. For a half-circular group of Chrysanthemums, with foliage plants used as an

edging, Mr. S. E. Haines, gardener to E. R. Laird, Esq., Cathcart, Cloughton, was first with an admirable group. This also carried with it the silver cup presented by C. Gatehouse, Esq. Primulas and Cyclamen and other miscellaneous plants formed a pleasing feature in this excellent show, the prizewinners being Mr. A. Brown, gardener to Geo. Webster, Esq., Overchurch Hill, Upton, and Mr. J. W. Totty, gardener to W. Laird, Esq.

Specimen plants were fairly numerous. For six trained plants of incurved Chrysanthemums the award of first prize carried with it a handsome silver challenge cup given by the Mayor and Corporation of Cheltenham. Mr. J. Bales, gardener to W. M. Baker, Esq., was easily first; second, Mr. J. Pilgrim, Pitville Nursery; third, Mr. H. T. Young, Naunton Gardens. In a corresponding class for Japanese varieties similar positions were again held by the exhibitors named. Some of the



FIG. 68.—JOHN POCKETT. (See page 394.)

CHELTEMHAM.—NOVEMBER 16TH AND 17TH.

WHAT proved to be a remarkably good all-round display of Chrysanthemums, fruit, roots, and grain, was arranged in the Assembly Rooms under the supervision of Mr. Sharpe, the Honorary Secretary, Mr. W. Cypher, and other enthusiastic members of the Committee. In addition to the ordinary prizes, quite a large number of extra prizes, some of them in the form of silver cups and medals, were added by various gentlemen in the district, and in nearly every instance the competition was close and the quality good. Apples, Pears, and vegetables were splendidly shown.

plants, notably that of Madame Carnot, to which another silver cup was awarded as being the best trained plant in the exhibition, were exceptionally well done. Three other classes were provided for trained plants, but Mr. Bates won first prizes easily in each.

Groups of Chrysanthemums arranged for effect on a space 14 feet by 7 feet are always a great feature at these shows, a keen rivalry existing among local growers. The first prize (£6 and a silver challenge cup), was awarded to Mr. W. Lusty, gardener to Colonel Rogers, Battledown Court, who arranged a most imposing group; the second prize going to Mr. G. Marsh, gardener to T. F. W. Butt, Esq., Arle Court; while Mr.

Maddocks was a close third. There were other classes for plants, but these call for no particular comment.

Nine classes were provided, and liberal prizes offered, for cut blooms. A grand display was made, and the competition was close and good throughout. The best twenty-four blooms of incurved varieties were shown by Mr. W. Lusty, who staged C. Curtis, Violet Porter, Madame Ferlat, Mrs. R. C. Kingston, W. Tunnington, Lady Isobel, Mrs. C. Egan, Princess of Wales, Mrs. Coleman, Harold Wells, Empress of India, Emily Nonin, Miss Haggas, Ma Perfection, G. Haigh, Jeanne d'Arc, Ideality, Globe d'Or, Violet Tomlin, and G. Carpenter, all massive, fresh, and good. Mr. Martin, gardener to T. W. Swinburne, Esq., Winchcombe, was second; and Mr. Marsh third. Four competed. With eighteen incurved Mr. Marsh was a good first; second, Mr. Lusty. The competition was keener in the class for twelve varieties. Mr. Humphries, gardener to J. L. Burgess, Esq., Maiseyhampton, was a good first with well-finished blooms. Mr. J. Mullins, gardener to Colonel Arbuthnot, Norton Court, Gloucester, was second; and Mr. J. Gowray, gardener to Mrs. Gambier-Parry, Highnam Court, third. For six varieties Mr. Maddock, gardener to J. Horlick, Esq., was first; Mr. Mullins second; and Mr. Hillier, gardener to Lady Northwick, third, all showing excellent blooms.

Four growers competed with thirty-six varieties Japanese, distinct, but the Judges had no hesitation in awarding the first prize to Mr. J. Martin, who staged deep, fresh, well coloured blooms of Eva Knowles, Simplicity, Mrs. J. Lewis, Edith Tabor, Silver King, Secreteire Fierens, Baron Ad. de Rothschild, Mrs. Hermann Kloss, International, Lady Ridgway, Hairy Wonder, N.C.S. Jubilee, Souvenir de Madame Rosette, Rose Wynne, Madame Carnot, Graphic, Robert Owen, Duke of York, Phœbus, J. Bidencope, Vivand Morel, Golden Gate, Mons. Panckoucke, Australie, Lady E. Clarke, General Roberts, Madame Philip Rivoire, Charles Davis, Madame Gustave Henri, Beauty of Adelaide, Madame Chenon de Léché, Australian Gold, E. Molyneux, and Mrs. R. Jones. Mr. Lusty was a good second, and Mr. Marsh third. Only two competed with eighteen incurved Japanese varieties. Mr. Lusty was well first with perfect blooms of several of the best known varieties; second, Mr. May, gardener to H. O. Lord, Esq. Mr. Lusty was also first for eighteen Japanese varieties, and Mr. May second. Seven growers competed with twelve Japanese varieties, Mr. J. Gowray taking the first prize for an excellent stand of blooms. Mr. W. Hillier was a close second, and Mr. G. Barrow, gardener to Dr. A. Ferguson, a good third. The same number competed with six blooms, which class, however, ought to have been confined to growers not showing in the larger classes. First, Mr. Mullins; second, Mr. W. Hillier; third, Mr. G. Barrow. Numerous hand bouquets, sprays, and vases were shown.

HULL.—NOVEMBER 16TH AND 17TH.

MANY good autumn exhibitions have been held under the auspices of the Hull Chrysanthemum Society, but none equal to that held on the dates named, as usual in the Artillery Barracks. In both cut blooms and groups of Chrysanthemums and foliage plants combined Hull has long held a prominent position. This year the exhibits in both were of a superior order to any previously seen, and this is saying a great deal. In punctuality of detail no Society can vie with this, as upon the stroke of ten o'clock the rooms are cleared for the Judges to commence their duties in a fit and proper manner.

Groups as usual were arranged in the large hall, and as each possessed much merit they one and all received a share of patronage from the stream of visitors who attend this popular northern show. For a group of Chrysanthemums and foliage plants, arranged in a space of 100 square feet, a silver challenge vase with £10 is offered as first prize, which yearly induces keen competition. This year five competed, making a noble display. As was the case last year, the Superintendent of the Public Parks secured the premier award by the quality of the Chrysanthemum blooms and lightness in arrangement, but as he cannot take an award this honour fell to Mr. G. Wilson, gardener to Sir James Reckitt, Bart., Swanland Manor, Brough, who staged a splendid exhibit in every respect, and possessed many instructive hints. Mr. G. Jarvis, gardener to Mrs. Whitaker, Cliff House, Hessle, was a creditable second; Mr. G. Cottam, florist, Alma Gardens, Cottingham, third. For a miscellaneous collection of plants, arranged in a space of 100 square feet, there were three exhibitors, in all of which there was a falling off in point of quality as compared to previous years. Mr. J. W. Wilson, South Cave, was first, and Mr. G. Wilson second. For the prizes offered for a decorated mirror there was a keen competition and satisfactory results. Mr. P. C. Coates, gardener to W. Wheatley, Esq., Anlaby Road, Hull, secured the leading award with an exhibit that was almost faultless in its arrangement. Mr. J. P. Leadbetter, gardener to A. Wilson, Esq., Tranby Croft, Hull, was second; and Mr. J. Foster, Newland, Hull, third.

Plants were profusely shown, and of high quality. For three trained specimens there was a brisk competition. Mr. H. Thompson, gardener to C. J. Ringrose, Esq., Cottingham Grange, Hull, won the premier award with freely flowered examples of Mrs. G. Rundle; Mr. William Mason, gardener to Col. A. K. Dibb, Kirkella, second. For three standards the same exhibitors occupied similar positions with Mrs. G. Rundle, each carrying four dozen blooms. For six plants, "cut-backs," there was a splendid array of exhibits, all possessing much merit. The premier position was occupied by Mr. J. Backhouse, Beverley, with grand examples of Vivand Morel, C. Davis, Mutual Friend, and Phœbus, each carrying substantial blooms and good foliage. Mr. G. Cottam was second.

Cut blooms were numerous and good, especially in the incurved section. For twenty-four, in not less than eighteen varieties, Mr. C. Crookes, gardener to Lady Hindlip, Hadzor, Droitwich, won the leading award with perhaps the finest stand of incurved blooms seen this season. The varieties were Madame Ferlat, C. H. Curtis, Duchess of Fife, Topaze Orientale, Queen of England, Empress of India, Jeanne d'Arc, Lady Isobel, Golden Empress, R. Petfield, J. Agate, Violet Foster, J. Foster, Lord Alcester, Bonnie Dundee, and Brookleigh Gem. Mr. W. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, was a good second with blooms of high quality; and Mr. C. H. Hunt, gardener to P. Ralli, Esq., Ashted Park, Epsom, third. In the class for eighteen incurved there was also keen competition. Mr. P. Walker, gardener to Col. Clitherow, Hotham House, Brough, won the leading position with a fine stand. Mr. Hotham, gardener to J. E. Wade, Esq., Brantinghamthorpe, was second; and Mr. Jackson, Waltham Hall Gardens, Grimsby, third.

The Japanese section produced strong competition and excellent blooms. For twenty-four, Mr. W. Mease was distinctly ahead with large bright blooms of Mrs. J. Lewis, J. Bidencope, Miss Nellie Pockett, Mrs. G. W. Palmer, Surpasse Amiral, Vivand Morel, Ella Curtis, Mutual Friend, E. Molyneux, Mrs. C. H. Payne, Madame G. Henri, M. Panckoucke, Mrs. W. Mease, Silver King, Simplicity, Secreteire Fierens, Madame Carnot, G. J. Warren, M. Chenon de Léché, and Mrs. Weekes. Mr. J. P. Leadbetter was a good second, and Mr. C. Crookes third. For eighteen Japanese, Mr. J. Backhouse won the premier award with good examples of popular varieties. Mr. R. Walker second. Mr. T. Down, gardener to H. S. Constable, Esq., Wassand, Hull, won first place for twelve Japanese with heavy blooms, well staged. Mr. Walker a close second, Mr. H. Thompson third amongst eleven competitors.

Grand examples of M. Chenon de Léché won for Mr. R. Walker the leading award in the class for six any one variety. Mr. C. Jennings, gardener to W. Moore, Esq., Walk House, Barrow-on-Humber, was second with the same variety. Large-flowered Anemones were a feature of the Show. Mr. F. Mason, Hessle, won premier place with excellent Sir W. Raleigh, W. W. Astor, Delaware, Queen Elizabeth, and Enterprise. Mr. W. Mason, Kirkella, was second. Reflexed varieties were best shown by Mr. R. Walker. Single-flowered varieties were numerous and good. For twelve bunches, Mr. Waterhouse, Cherry Gaith, Cottingham, was first. Pompons were best staged by Mr. W. Sinclair.

Table decorations made a distinct feature of the Show. For a dessert table, 8 feet by 4 feet, completely laid for six persons, only Chrysanthemums with any kind of grass or foliage to be used, five competed, making a bold display. Miss A. K. Brown, Preston Cottage, Preston, Hull, was distinctly ahead with an arrangement that showed much taste. Mrs. H. L. Leonard, Ivy House, Preston, Hull, second. Mrs. F. S. Wheeler, "Chepstow," Princes Avenue, Hull, was third. Miss Hilda Pudsey, 6, Crown Terrace, Hull, won the premier award for one bouquet. Miss Ethel G. Fisher, Willerby Hall, Hull, won first prize for the best dressed epergne. The most tasteful arrangement of cut miscellaneous flowers was contributed by Miss Pudsey. Miss Hilda Pudsey was second.

The premier incurved bloom in the open classes was a grand one of Duchess of Fife, staged by Mr. Crookes. M. Chenon de Léché, shown by Mr. Walker, was the premier Japanese bloom; both magnificent examples in their respective sections.

RUGBY.—NOVEMBER 16TH AND 17TH.

THE scholastic town of Rugby has for twelve years held an annual show of Chrysanthemums, fruit, and vegetables, and it is one of the comparatively few societies which has not only paid its way, but can show a balance on the right side. That is at least a very satisfactory result of continuous and consistent good work, in which a practical Committee has been substantially supported by the experienced Secretary, Mr. Wm. Bryant. The Committee does something more than aid in the conduct of the Society's affairs, for a proportion of them are also exhibitors, and thus help to make the show as well. In the case of some societies the committees seem to be chiefly "ornamental," and do little real work, but that will not apply to Rugby at any rate.

The Town Hall was as usual the place chosen for the show, the upper room being devoted to cut blooms and fruit, while the basement hall was similarly occupied with plants, groups, and vegetables. In the cut bloom classes an exceptionally fine display of Japanese was provided, but the incurved were, to use a common phrase, "conspicuous by their absence." With twenty-four Japanese blooms, distinct varieties, Mr. A. Chandler, gardener to Arthur James, Esq., Coton House, Rugby, was awarded the premier prize for one of the finest collections that has been staged this season. The blooms were of considerable size, deep, well developed, fresh and bright, indeed the most critical examination could scarcely discover a defect of any consequence. The varieties were Mad. Gustave Henri, Mrs. J. W. Barks, W. Wright, Australie, Mrs. W. Mease, E. Molyneux, G. W. Warren, M. Hoste, Mrs. G. W. Palmer, Graphic, Mrs. Hermann Kloss, Pride of Exmouth, Mad. L. Remv, Mrs. C. H. Payne, Mad. Carnot, Phœbus, M. Chenon de Léché, Silver King, Emily Silsbury, Ethel Addison, Mons. Panckoucke, and M. Gruyer. The second place was taken by Mr. Pearce, gardener to S. Loder, Esq., Floore House, Weedon, who had a strong back row of handsome blooms, but the others were not so even. Mr. Blakeway, gardener to T. A. Muntz, Esq., M.P., Dunsmore, Rugby, was third with smaller but even and bright blooms.

There was a good display in the class for eighteen Japanese blooms, and there Mr. Chandler was again the leading exhibitor, showing fine blooms of similar varieties to those in his other stand, but they were not quite up to so high a standard. Mr. Blakeway followed closely with

fresh and meritorious blooms. Messrs. Chandier, Pearce, and Blakeway also shared the prizes in the order named for twelve Japanese, all showing creditable examples. Mr. Chandier and Mr. Pearce had the only notable stands of incurved blooms, being respectively first and second for small but neat, compact blooms. The varieties in the first stand were J. Agate, Perle Dauphinoise, Lucy Kendall, W. Tunnington, Mrs. R. C. Kingston, Jeanne d'Arc, C. H. Curtis, Madame Darier, Brookleigh Gem, R. Petfield, Empress of India, and Lord Wolsley. In the local classes Japanese were also well shown by several exhibitors.

Tables and baskets of Chrysanthemums constituted an attractive feature. The display of Apples was also excellent, and comprised some fine samples of dessert and culinary varieties from Mr. Harmon, gardener to the Rt. Hon. Earl Denbigh, Newnham Paddox, Lutterworth; Mr. S. Cole, gardener to Earl Spencer, Althorp Park, Northampton; and others. In the basement the plants were not of remarkable merit, but there were several showy groups—a long table of Primulas, and a keen competition in the vegetable classes, which are always an important feature at Rugby.

SOLIHULL.—NOVEMBER 16TH AND 17TH.

THE sixth annual Show of this Society was held in the Public Hall on Wednesday and Thursday, and in some respects proved to be superior to its predecessors. Especially good was the first prize group of Chrysanthemums interspersed with graceful Palms, Crotons, and Ferns. It was arranged by Mr. J. Eales, gardener to Mrs. Hoskins, Lode Lane, Solihull. The second prize was adjudged to Mr. D. Bagg, gardener to W. E. Perks, Esq., Ashleigh, Solihull; and third prize was awarded to Mr. W. Brown, gardener to S. Leitner, Esq., Alderbrook, Solihull. In the smaller group class, Mr. G. Robbins, gardener to T. Hewitt, Esq., Fernleigh, was accorded the first position. The second prize was awarded to Mr. T. Warner, gardener to W. A. Upton, Esq. In the classes for plants, Messrs. Eales, Robbins, Bagg, Warner, and T. Kemp, gardener to G. E. Wright, Esq., acquitted themselves most creditably.

There was a capital display of cut blooms of unusual merit. For twelve Japanese, distinct, Mr. W. Brown secured the first prize, Mr. J. Eales was a close second, and Mr. H. Dix took the third prize. For six blooms, Messrs. Milton, Robbins, and J. Warner were adjudged the prizes in the foregoing order. Incurved were good, and those in Mr. J. Eales' stand of twelve blooms which secured the first prize were fresh and of good substance (a compact bloom of Bonnie Dundee was selected as the premier incurved in the Show). Mr. Bagg was a good second. The Anemone section was well shown, and the prizes fell to Mr. G. Robbins and Mr. T. Warner respectively.

For six Japanese blooms, any one variety, the first prize fell to Mr. G. Milton with Phœbus; the second to Mr. T. Warner with Madame Carnot; and the third to Mr. Dix with Phœbus. A feature in the Show was the display of Japanese Chrysanthemum blooms, distinct, on long stalks, arranged with foliage for effect, space not to exceed 2 feet by 2 feet. In the class for twelve varieties the premier prize was awarded to Mr. W. Brown for a tasteful arrangement of fine blooms, and from among which was selected Mrs. Harman Payne as the premier Jap in the Show; Mr. H. Dix, gardener to A. Lovekin, Esq., Tudor Grange, was awarded the second prize. In the class for six blooms as above, space not to exceed 2 feet by 18 inches, Messrs. Milton, Robbin, and Warner also made a very good display, as in the order named.

Primulas and Cyclamen, with decorative table plants, were well shown. An award of merit was deservedly bestowed on Mr. W. Sanders, gardener to C. J. Newbury, Esq., Solihull, for a collection of Orchids. As usual, there was a fine display of Apples, and a few fair Grapes. Vegetables were creditable. A notable exhibit was a collection of Apples (twenty-six varieties) from Mr. C. Haynes, gardener to W. C. Alston, Esq., Elmdon Hall, not for competition.

BRISTOL.—NOVEMBER 16TH, 17TH, AND 18TH.

THE thirty-fifth exhibition of this famous Society was held on the above dates in the Drill Hall, the Colston Hall, so long associated with Bristol shows, having been destroyed by fire only a few months since. Although not so well fitted for such a magnificent show, the Drill Hall is nevertheless a fine building, and many of the exhibits were displayed to even greater advantage than in the larger Colston Hall on previous occasions. In addition to Chrysanthemums, fruits and vegetables were splendidly shown.

The great centre of interest was naturally found in the challenge vase class for cut blooms, six prizes, ranging from £5 to 15s., being offered, in addition to the £12 12s. challenge vase, for thirty-six Japanese, in not less than twenty-four varieties. Mr. G. W. Drake, Cardiff, was the winner with a stand never before equalled at the Bristol Show, and which consisted of the following varieties:—Mrs. J. Lewis, G. C. Schwabe, Simplicity, Australie, John Seward, Vivian Morel, Madame Carnot, Dorothy Seward, Master H. Tucker, G. J. Warren, Directeur Liebert, Duke of York, Surpasse Amiral, Graphic, G. W. Palmer, Mrs. C. H. Payne, Mrs. C. Blick, Miss Elsie Teichmann, Etoile de Lyon, Thomas Wilkins, Madame G. Henri, Mons. Chenon de Léché, Lady Northcote, and Mary Molyneux. Mr. G. Runnacles, gardener to R. Whitehead, Esq., was a good second. Mr. T. Wilkins, gardener to Lady T. Guest, was third; Mr. C. Cooper, gardener to W. M. Smith, Esq., fourth; Messrs. Wilkinson and Aplin fifth and sixth.

For twenty-four incurved Mr. Dumball, gardener to Sir Charles Phillips, Picton Castle, Pembrokeshire, was an easy first with really excellent blooms of Madame Ferlat, Miss D. Foster, Lady Isobel, Chrysantheme Bruant, Mdlle. L. Faure, C. H. Curtis, G. Haigh, Mrs. Col.

Goodyear, Mrs. R. C. Kingston, Ma Perfection, L'Amethyste, W. Tunnington, The Egyptian, Globe d'Or, Topaze Orientale, Violet Tomlin, Golden Empress, Queen of England, Countess of Warwick, and Bonnie Dundee. Mr. Runnacles was second with a beautifully fresh stand; and Mr. Wilkins third.

The class for twelve Japanese was well contested, Mr. H. Baker, gardener to Mrs. H. A. Smith, Chepstow, being a good first with Madame Carnot, Edith Tabor, Mdlle. Thérèse Rey, Australie, E. Molyneux, Australian Gold, Simplicity, Chas. Davis, Vivian Morel, Madame Ricoud, Mons. Panckoucke, and Chenon de Léché. Second, H. A. Allen, Esq., Chepstow; third, W. A. Todd, Esq., Clifton. Mr. Baker was also first for twelve incurved Japs. Mr. Robinson, gardener to Lord Ludlow, was second, and Mr. Carpenter, Frome, third. The last-named was first for twelve incurved, his best being Ma Perfection, Mrs. E. G. Egan, and Emile Nomain. Mr. Robinson was a close second. Messrs. Dumball, Runnacles, and Carpenter won with six incurved; and Messrs. Robinson, Cooper, and Aplin with Anemones. Mr. Morse had first for a single bloom of Yellow Carnot. Mr. Drake won the N.C.S. certificate and medal for a monster Mrs. J. Lewis; Mr. Dumball, the special prize given by the Treasurer, Dr. Shaw, for the best incurved, with a perfect C. H. Curtis.

Groups, for which there were two classes, made a striking feature at each end of the spacious hall. Both quality of flower and arrangement deserve the highest commendation. Messrs. Marshall, McCulloch, Bunker, Mantell, Bannister, Ross and Newbury being the winners. Trained plants, though numerous, were not so good as in former years. Classes for ornamental foliage plants and Ferns made an excellent furnish for the centre of the hall, Mr. Binfield being the most successful in plants, and Mr. Bannister with Ferns. Other notable winners were Messrs. Ross, Price, Shaddick, and McCulloch. Table plants, Poinsettias, berried plants, table Ferns, Cyclamens, and Primulas were, as they always are at Bristol, of the best; while Orchids were both numerous, well-bloomed, and choice.

Much more might be said bearing on the merits of the exhibition, its officers, who are all men of the highest character and experience, and its Secretary, Mr. Edwin Cooper, who are each and all severally deserving of the highest commendation, both on the excellence of the show and its management, to which both exhibitors and the public bear ample testimony by their patronage.

YORK.—NOVEMBER 16TH, 17TH, AND 18TH.

THIS exhibition is under the management of the Ancient Society of York Florists, and prize money is offered amounting to £200, exclusive of challenge cups and gold medals. Primarily it is a Chrysanthemum show, but fruit and vegetables play no mean part. The spacious galleries at the Fine Art Buildings, in which the exhibition was held, were filled with a wealth of produce, extensive collections of vegetables filling one side and Pears and Apples the other. The excellence in all departments was fully maintained, the only drawback being a falling off in the number of groups, which on previous occasions furnished the large hall so effectively.

The cut blooms were again staged in the Central Hall, filling two tables, and presented a gorgeous spectacle, a high standard of quality running through the several classes, which in most cases were numerously filled. The most important class was that for thirty-six blooms, eighteen incurved and eighteen Japanese. Six stands were in competition for the citizens' challenge cup, value £20, and £10 in cash for the first prize. Mr. Leadbetter, gardener to Arthur Wilson, Esq., Tranby Croft, secured the premier position with really fine examples of—Japs: Miss Nellie Pockett, Australie, Mrs. J. Lewis, Vivian Morel, Mrs. F. A. Bevan, Modeste, Pride of Madford, Lady Ridgway, Ed. Molyneux, C. Davis, Madame Carnot, International, Mrs. G. W. Palmer, Edith Tabor, Lady Hanham, and Thos. Wilkins. Incurved: Duchess of Fife, Hero of Stoke Newington, Golden Empress, V. Tomlin, Lord Alcester, Princess of Wales, Queen of England, Miss Haggas, Lucy Kendall, Ma Perfection, Leonard Payne, Madame Ferlat, Globe d'Or, Bonnie Dundee, and Mrs. R. C. Kingston. Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, was second, and Mr. Folkard, gardener to Sir Jas. Walker, Sand Hutton, third.

For eighteen incurved, Mr. Folkard first with Lord Alcester, Mrs. Kingston, Chas. Curtis, Duchess of Fife, J. Agate, Queen of England, Baron Hirsch, Madame Darier, Lady Isobel, Leonard Payne, Golden Empress, Perle Dauphinoise, and Mrs. Coleman. Second, Mr. Goodacre; third, Mr. G. Shotton, gardener to H. Andrews, Esq., Swarland Hall, Northumberland. In the class for twelve incurved Mr. Folkard was again first, Mr. Goodacre second, and Mr. Shotton third. Mr. Folkard also was first with Golden Empress for six incurved, any one variety.

Mr. Folkard's fine record in the incurved section was about equalled by Mr. D. Williams in the Japanese section, who won all along the line with very fresh and remarkably high-coloured blooms. His first prize stand for eighteen Japanese contained Eva Knowles, Mons. Panckoucke, Simplicity, G. J. Warren, Robt. Powell, Mons. Chenon de Léché, Mrs. C. H. Payne, Mrs. J. Lewis, Good Gracious, Madame Carnot, Pride of Madford, Chas. Davis, Mrs. G. Palmer, Mutual Friend, N.C.S. Jubilee, Edith Tabor, Vivian Morel, and Phœbus. Mr. G. Pieker, gardener to —Pease, Esq., Hesselwood, was a good second, and Mr. G. Shotton third. In a very heavy class of twelve Japanese Mr. Pieker was again second to Mr. Williams; Mr. Folkard was third, and Mr. J. D. Hutchinson, Kirby Moorside, fourth. The single variety class of six blooms each was especially attractive, fine stands of Madame Carnot, Eva Knowles, and Lord Brook being the winning varieties.

In the local class a challenge vase value 10 guineas was offered for

eighteen Chrysanthemum blooms, distinct. On two previous occasions Mr. Everard, gardener to Mrs. Hatch, has secured the coveted trophy; this year he had to make way for Mr. R. Agar, gardener to Major the Hon. O. V. Lumley, Cliff Villa, York, who was first.

In the Chrysanthemum group Mr. J. W. Hields secured first prize without competition. Mr. Everard secured the chief prizes for specimen Chrysanthemums with exceedingly well-grown plants, carrying about sixty fine blooms each. Mr. W. Dickenson took second position all through the classes.

BARNESLEY.—NOVEMBER 17TH AND 18TH.

In all departments of this Show a decided advance on previous ones was evidenced, especially in the local cut bloom classes, specimen Chrysanthemum plants, and bouquets. The chief interest locally was centred in the challenge cup offered for twelve incurved and twelve Japanese, Mr. Weatherall, gardener to H. Pigott, Esq., Barnsley, displacing Mr. T. Dunn, gardener to Mrs. Jones, Elmsal Lodge, who had won the trophy on two previous occasions. Mr. Weatherall's stand was an exceedingly creditable one for the Barnsley district. It was made up of—Incurved: Mrs. Kingston, Madame Darier, Empress of India, C. H. Curtis, Globe d'Or, Emily Dale, Mons. Bahuant, and J. Agate. Japs: Simplicity, International, Edith Tabor, Vivian Morel, M. Demay Taillandier, Niveus, Mrs. G. W. Palmer, Phœbus, Lady Ridgway, and Mrs. H. Weeks. In Mr. Dunn's stand there were fine examples of Lady Hanham, G. C. Schwabe, Madame Carnot, H. Weeks, Chas. Curtis, Bonnie Dundee, J. Agate. For twelve incurved Mr. Weatherall was again first; Mr. A. Gibson, gardener to R. Micklewait, Esq., Barnsley, second.

In the open class for eighteen incurved, Mr. J. Vaughan, gardener to Thos. Brocklebank, Esq., Birkenhead, was first, showing Duchess of Fife, Mrs. Kingston, Emily Dale, Chas. Curtis, John Fulford, Princess of Wales, Lady Isobel, J. Agate, Miss Haggas, Perle Dauphinoise, Queen of England, W. Tunnington, Lord Alcester, Ma Perfection, Robt. Cannell, and Mdlle. Lucie Faure. Second, Mr. Alderman, gardener to J. D. Ellis, Esq., Worksop; third, Mr. Ketchel, gardener to C. Simpson, Esq., Ackworth Moor Top. Mr. Vaughan was again first for eighteen Japs, Mr. Alderman second, Mr. Ketchel third. Twelve incurved, Mr. Vaughan first, Mr. Ketchel second, Mr. Alderman third. Twelve Japs, Mr. Vaughan first, Mr. Alderman second.

The first prize for Chrysanthemum groups was awarded to Mr. Wilson, gardener to Guy Senior, Esq. The second prize fell to Mr. J. Hepworth, who, on account of its unfinished character, was fortunate in receiving the honour. Six varieties of fruit brought a good competition, the prizes falling to Messrs. Ketchel, Finlay, and Wenman in the order named.

EDINBURGH.—NOVEMBER 17TH, 18TH, 19TH.

No such magnificent autumn exhibition has been seen in the Waverley Market as that held on the dates named. The entries were, it is true, less in number than last year, but the falling off was due to there being 200 less in the vegetable section only. Four thousand cut blooms were staged, making the grandest display ever seen in one show. This is due to the liberal prizes offered by the executive, coupled with a favourable season experienced in Scotland, which enabled home cultivators to stage strongly.

Valuable prizes are offered for twenty Japanese, three blooms of each, staged in vases with Chrysanthemum foliage. As seven competed, this class was a grand one and well deserved the outlay, as it made an object lesson for other societies to follow. The premier award was easily made in favour of Mr. T. Lunt, gardener to A. Stirling, Esq., Keir, Dunblane, for a magnificent collection of blooms accompanied with the best of foliage. The varieties were Oceana (grand), Louise, Lady Ridgway (very deep), Mrs. W. H. Weeks, Phœbus, J. Bideneope, Australian Gold, Mrs. G. W. Palmer, Australie, Mad. G. Henri, Mons. Chenon de Léché (fine), Mrs. C. H. Payne, Mdlle. M. A. de Galbert, Pride of Madford (extremely rich in colour), M. Hoste, Eva Knowles, Mrs. J. Lewis, Mad. M. Ricoud (deep), and Simplicity. Mr. J. W. Nicoll, gardener to J. W. Bell, Esq., Rossie, Forgandenny, was a capital second with evenly balanced blooms well staged. Mr. A. Haggart, Moor Park, Ludlow, was third, and Mr. J. Bessant, Castle Huntley, fourth.

For twelve vases, three blooms of each, distinct Japanese varieties, there was a stiff competition, no less than eleven staged. Mr. R. Addison, Bloek House, Skelmorlie, won the premier award with an exceedingly fine stand of blooms, of which Mons. Chenon de Léché, Pride of Exmouth, Edith Tabor, Phœbus, M. Gruyer, C. Davis (very fine), Lady Esther Smith, and Lady Hanham were the best. Mr. Nicoll was a good second. This exhibit contained the premier Japanese of the show, a very good one of Mrs. H. Weeks. Mr. J. Bird, Pachills, Lockerbie, was third.

For thirty-six Japanese, distinct, staged in the ordinary way, Mr. Lunt was again successful with a set of large brightly coloured blooms. Some of the best were Madame Rosseau, Simplicity, Matthew Hodgson, John Seward, Mutual Friend, Oceana, Mrs. Weeks, and Mrs. F. A. Bevan. Mr. Addison was second; and Mr. J. Martin, Corndean Hall, Winecombe, Glos., third. Mr. Lunt followed up his previous successes by winning for twelve Japanese with a really good exhibit. Mr. Addison was second, and Mr. Day, Galloway House, Gorlietown, third. Mr. J. H. Cumming won for six Japanese with heavy fresh blooms of popular varieties among nine competitors. Prizes were also offered for staged varieties, six blooms of each, in vases. The competition was keen in each class, making a commendable display. Mr. Addison won for C. Davies, Duchess of York, E. Molyneux, and President Borel, in every instance

staging high-class blooms. Mr. Day won with Edith Tabor; and Mr. W. Armstrong with grand examples of Mutual Friend. Amongst eight competitors Mr. D. Machar won the premier award for Vivian Morel, while Mr. McLean occupied a similar position with Western King.

Prizes were offered for three vases of decorative varieties, not disbudded, arranged with any kind of foliage. A really magnificent display was made by the seventeen entries. Mr. A. C. Cameron was easily first with one of the best exhibits of the kind ever seen. The varieties, Source d'Or, Yellow Laeroix, and the bronze and yellow sport from La Triomphante—Mrs. A. Kirke, were well blended with foliage of a suitable character. For one vase of single flowered varieties seven competed, making a good display. Mr. A. C. Cameron, with Mary Anderson and its yellow sport Miss A. Holden, won first prize; and Mr. J. Holmes second.

Incurved varieties were moderately represented. Mr. J. Martin won for twelve with the best exhibit in the Show, the first prize in the class for twenty-four being withheld. For six incurved, any one variety, Mr. J. Henderson, Elleray, Windermere, won with J. Agate in neat condition. For six blooms of C. H. Curtis Mr. Martin secured the leading award with shapely examples. Amateurs staged many really fine examples. For twelve Japanese, Mr. Brydon, Tweedbank, Innerleithen, won easily.

Plants were a marked improvement on former years, better prizes being offered in this section. For six, distinct, large flowering varieties, Mr. J. Thomson, Preston Grange, Prestonpans, was an easy first prize winner with specimens 5 feet in diameter carrying fully 150 blooms. Mr. D. Cavanagh, Murrayfield, was second. Mr. J. Thomson also won for four Japanese. Mr. W. Pulman, Hollywood, secured the premier award for four Pompons. Fruit and vegetables, as is usually the case here, were well staged, Grapes occupying much space. Prizes were offered for a circular table filled with plants and cut flowers, the arrangement being the leading point, Mr. A. E. Todd, Stoneybank, Musselburgh, easily securing the premier award with an exhibit possessing much taste. Mr. E. Wood was second. Miss E. Todd won the premier prize for the best arranged epergne or vase of Chrysanthemums with a pleasing display.

The non-competitive exhibits were numerous and interesting. Mr. H. J. Jones, Ryecroft Nursery, Lewisham, had a pleasing exhibit of Chrysanthemums, twenty dozen cut blooms, well representing the novelties of the year—H. J. Jones, R. Hooper Pearson, Hanwell Glory, Kate Broomhead, and Dr. Hope being the most conspicuous. Mr. Thos. Fortune, 17, Queen's Ferry Street, Edinburgh, had a charming assortment of wreaths.

MANCHESTER.—NOVEMBER 17TH, 18TH, AND 19TH.

NEVER within the memory of any Lancastrian has such a great exhibition been held as the one that opened on Thursday last in the spacious St. James' Hall. The cut blooms were superb, as also were the groups, whilst untrained specimen plants were splendid. Mr. Weathers, the courteous Curator, and Mr. Paul, his able assistant, are to be congratulated for their share in the task.

The leading prize in the show was for twenty-four Japanese and twenty-four incurved, a silver cup being presented by the Earl of Derby, and valued at £25, with 10 guineas cash presented by the Society, the cup to be won two years in succession, or three times in all. There were seven entries, and here Mr. W. H. Lees, gardener to F. A. Bevan, Esq., New Barnet, won with a magnificent stand of well coloured flowers. The Japanese were Mutual Friend, Mrs. C. H. Payne, Yellow Carnot, Mrs. Lewis, Mrs. G. W. Palmer, Madame Carnot, Vivian Morel, Mrs. Weeks, Secrétaire Fierens, E. Molyneux, Oceana, Jno. Pockett (splendid), Simplicity, Col. Carrington, Phœbus, Mrs. Shrimpton, Nellie Pockett, E. Tabor, Eva Knowles, Elsie Teichmann, Chenon de Léché, R. H. Pearson, Madeline Davis, and Charles Davis. Incurved—Ma Perfection, Violet Foster, Chas. H. Curtis, Lady Isobel, W. Tunnington, Duchess of Fife, Globe d'Or, Madame Ferlat, Austin Cannell, Yvonne Desblanc, Perle Dauphinoise, Mrs. R. C. Kingston, Empress of India, Mons. Desblanc, Mdlle. Lucie Faure, Major Bonnaffon, Princess of Wales, Lord Rosebery, Mrs. Coleman-Lyne, jun., Mons. Martignae, Madame Darier, Bonnie Dundee, and Jeanne d'Arc. Mr. J. Goodaere, gardener to the Earl of Harrington, Elvaston Castle, Derby, was an excellent second. The third position went to Mr. W. Crooks, gardener to the Dowager Lady Hindlip, Hadzor House, Droitwich.

Seven stands were staged in the class for thirty-six Japanese, Mr. F. Vallis, Fruit Farm, Bromham, Chippenham, being a grand first. The best flowers were Madame Carnot, yellow; Phœbus, Surpasse Amiral, E. Molyneux, Mons. Chenon de Léché, Nina Dabbs, Swanley Giant, Mons. Hoste, Oceana, and Lady E. Clark. Mr. West, gardener to E. Bethuens, Esq., Whitechurch, was second, and Mr. Vaughan, gardener to T. Brocklebank, Esq., The Hollies, Woolton, an admirable third.

For twenty-four incurved there were nine entries, Mr. Crooks having a superb stand, which included Madame Ferlat, Duchess of Fife, Topaze Orientale, W. Tunnington, Mdlle. Lucie Faure, Dorothy Foster, and Jeanne d'Arc. Mr. West also showed well for second place; Mr. C. Osborne, gardener to H. Tate, Esq., was third.

Mr. Lees again led for eighteen Japanese with superb blooms; Mr. Joy, gardener to R. A. Bowring, Esq., Cardiff, was a close follower; Mr. G. Foster, The Nurseries, Havant, was third. For twelve incurved Messrs. Foster, Crooks, and Lees secured the awards; and for twelve Japanese, Mr. Hall, gardener to C. Waterhouse, Esq., Collar House, Prestbury, was a really good first. Six staged for thirty-six miscellaneous blooms, Mr. Vaughan won, and J. Lamb, Esq., Bowdon, was second.

Five staged in the class for a group of Chrysanthemums and foliage plants, Mr. J. Roderick, gardener to J. Harcastle Sykes, Esq., Cringle,

Cheadle, being first, and Mr. Wilkes, gardener to Miss Lord, Ashton-on-Mersey, second. For nine untrained plants, Mr. Bradburn, gardener to G. H. Gaddum, Esq., Adria House, Didsbury, won with splendid examples, Mr. Mulloy, gardener to Thos. Harker, Esq., Brook House, Withington, being a good second.

Before entering on to the trade exhibits we must accord the highest possible merit to the great group of foliage and flowering plants brought by Mr. Weathers from the Botanical Gardens. It covered many hundreds of square feet, high Palms towering in the centre. The Chrysanthemums were massed in colours of some twenty plants each, and grand they looked, with "dot" plants of Yuccas and Dracaenas. It was a bold attempt splendidly carried out. Messrs. Clibran & Son, Altrincham, staged Celosias of an extremely choice strain, embracing many colours not hitherto seen; also handsome cut-blossoms of incurved Japanese, decorative and single Chrysanthemums. Messrs. Canbell & Sons, Swanley, gave visitors a treat in colour, with beautiful Zonal Geraniums, Cannas, and cut blossoms of Chrysanthemums. Messrs. W. J. Godfrey, Exmouth, and W. Wells & Son, Earlswood, were conspicuous by reason of the choice and varied collection of Chrysanthemums, many new varieties being certificated.

Messrs. Dickson, Brown, & Tait and Messrs. Dickson & Robinson, vied with each other in their efforts to suit the public taste, the former showing capital groups of Lily of the Valley and Gloire de Lorraine Begonias, and the latter having miscellaneous plants and an excellent collection of Cyclamens. Orchids were left chiefly to Mr. James Cypher of Cheltenham, and right worthily did he maintain his reputation. Very fine, too, was the stand put up by Mr. Robson of Bowden. Messrs. Heath & Sons, too, had a small but choice stand of Orchids. The Onions staged by Mr. Deverill of Banbury were marvels of good culture.

WREXHAM.—NOVEMBER 18TH.

THE beautiful old town looked its best on the morning of the show, and through the narrow street turning from the main road the visitor was soon in sight of the Public Hall, where the autumn queen could be seen in full beauty, whilst fruit of high quality and colour enhanced the scene. Mr. Elliott H. Strachan, the Secretary, was admirable in his endeavours to make everyone feel at home, and it is to be hoped that the public have appreciated his work to the full.

In the class for twenty-four Japanese seven staged. The Judges awarded the prize to Mr. Dawes, gardener to Lord Trevor, Brynkinalt; but the rules read that back row flowers must not exceed 8 inches in height from the top of the board to the under side of the tube, and a protest being made by other exhibitors that Mr. Dawes had blossoms from half inch to 1 inch higher he was unfortunately disqualified, and the prize given to the second—viz., Mr. Fairbairn, gardener to Sir Watkin W. Wynn, Bart., Wynnstay, the second and third prizes going to Mr. Shaw, gardener to Mrs. Potts, Horsley Hall, and Mr. E. J. Edwards, gardener to E. S. Clark, Esq., Oak Alyn, Cefn-y-Bedd, with well coloured flowers.

For twelve Japanese Mr. Bagshaw, gardener to Ed. Peel, Esq., Bryn-y-Pys, was a grand first, the finest being Baron Ad. de Rothschild, Yellow Carnet, Edith Tabor, Mrs. H. Weeks, Vivian Morel, and Simplicity, the latter gaining the premier prize in the show. Mr. Dawes was a creditable second, and Mr. Shaw third. For twelve incurved Mr. Edwards was a distinct first, C. H. Curtis, Duchess of Fife, Mrs. R. C. Kingston, Miss Dorothy Foster, and Madame Ferlat being especially prominent. Mr. Dawes was second, and Mr. Roberts, gardener to Miss Wright, Halston, third.

Some pretty groups were arranged for effect, Mr. Bagshaw having no difficulty in taking the premier honours with plants carrying excellent flowers. The second prize went to Mr. Dean, gardener to Jno. Jones, Esq., Grove Lodge. The fruit alone was worth a journey to see, for in addition to numerous collections of Apples and Pears there were many prizes offered for single dishes. The number was too large to admit of our giving the names. Non-competitive exhibits helped materially to an excellent show.

BOLTON.—NOVEMBER 18TH AND 19TH.

IN the midst of a town given up almost entirely to manufacturing products the Committee keep pace with the times, and continue to hold their annual show of Chrysanthemums in the Town Hall. That the efforts made are worthily appreciated, a visitor can at once see, not only by the support given by the inhabitants, but also by the great increase in quality of exhibits, and also in the arrangement throughout.

We have so much pressure on our space at the present time, that only the leading classes can be mentioned. For twelve incurved and twelve Japanese the silver cup and first prize was won by Mr. J. Kirkman, gardener to J. Stanning, Esq., J.P., Leyland, with a stand of much quality, the best varieties being incurved: *Perle Dauphinoise*, *Queen of England*, *W. Tunnington*, *Duchess of Fife*, *Madame Ferlat*, *Mrs. Airdrie*, *Globe d'Or*, *Major Bonnaillon*, *Alfred Salter*, *C. H. Curtis*, *Golden Empress*, and *Mrs. R. C. Kingston*. Japanese: *Mrs. W. H. Lees*, *Mrs. C. H. Payne*, *Phœbus*, *Madame Bruant*, *Secrétaire Fierens*, *Madame Gustave Henri*, *Miss D. Shea*, *Madame Carnot*, *Mons. Hoste*, *Australie*, *Edith Tabor*, and *Mons. Chenon de Léché*. Mr. Whittle, gardener to R. G. Allen, Esq., Aigburth, Liverpool, and R. W. Harley, Esq., Brampton, Hereford, were so extremely close as to give the Judges very much trouble, their flowers being of the highest quality.

The same order was maintained in the twenty-four Japanese, Mr. Kirkman again showing the choicest of blossoms. Mr. Harley was the

only exhibitor for twelve incurved. In a class for nine incurved and nine Japanese the local talent came out in strong force, the verdict being in favour of Mr. Shone, gardener to J. W. Makant, Esq., J.P., Gilmore Lodge, Bolton; and Mr. G. Callon, gardener to Jno. Harwood, Esq., J.P., who took them in the order named. The competition for twelve incurved and twelve Japanese (local) was a good one, Mr. J. Wainwright, gardener to Miss Mabel Cross, who also won the President's silver cup, scoring well with a stand containing some really good flowers. Mr. E. L. Castree, gardener to G. Shaw, Esq., Pennington Hall, Leigh, was second. For twelve incurved, twelve Japanese, twelve various, six incurved, six Japanese Mr. Shone won cleverly throughout; Mr. Eastwood, gardener to Mrs. Taylor, winning two minor classes.

The plants were quite up to the usual standard, Mr. Shone making himself somewhat of a champion by taking the prizes for twelve varieties shown in vases, nine specimens, distinct, four large flowering, and single specimen Japanese, incurved, reflexed, and Pompon. He also won first and silver cup for a characteristic group, and Bolton groups are so well done that really good ones can only be entertained, Mr. C. Jones, gardener to Mrs. Shaw, an adept at the work, following closely. For an artistic group with a mirror at the back, Mr. Barclay, gardener to T. Walker, Esq., J.P., took first and the silver medal of the R.H.S.

The miscellaneous plants were all of considerable merit, the growers of which are deserving of every credit. Fruit and vegetables were very high class. Mr. R. Smith, the best of Chairmen, and Mr. J. Hicks, the energetic Secretary, are to be commended, as is also the Committee for bringing such excellence to bear upon their work.

BATLEY.—NOVEMBER 19TH.

THE local gardeners' and amateurs' classes are here encouraged by a liberal prize list—medals, the N.C.S. certificates, and challenge cups. No less than six of the latter are offered, including the one in the open class valued at 20 guineas. The result is a very fine Show, as the well known high standing of the principal exhibitors testifies.

Mr. Geo. Burden, gardener to G. B. Cockburn, Esq., Birkenhead, whose incurved blossoms have greatly helped to place his name high up at many shows this season, won the above named cup, carrying with it a cash prize of £7, for eighteen incurved and eighteen Japanese blossoms. The following were especially worthy of record. Japanese: *Madame Gustave Henri*, *Australie*, *Lady Ridgway*, *Mons. Chenon de Léché*, *Ed. Tabor*, *Mrs. H. Weeks*, *Phœbus*, *Mathew Hodson*, *Lady Hanhan*, and *Thos. Wilkins*. Incurved: *Madame Ferlat*, *Miss D. Foster*, *Harold Wells*, *Mrs. Kingston*, *Duchess of Fife*, and *Ma Perfection*. Mr. J. P. Leadbetter, Tranby Croft, was second. His Japanese made up a very heavy stand, nearly overbalancing the formidable incurved of his opponent. Mr. S. Cole, gardener to Earl Spencer, Althorp Park, was third. For twelve Japanese, Mr. J. H. Goodacre, gardener to the Earl of Harrington, was first, showing *Phœbus*, *Mrs. H. Weeks*, *Mrs. C. H. Payne*, *E. Tabor*, *Croda*, and *Mutual Friend* (fine). Second, Mr. Geo. Burden; third, Mr. J. P. Leadbetter. Twelve incurved.—First, Mr. G. Burden; second, Mr. J. H. Goodacre; third, Mr. J. Vaughan, gardener to T. Brocklebank, Esq., Woolton.

In the local class for cut blossoms the winning stands came up strongly, Mr. J. Thornton, Lamb Hall, winning the six-guinea challenge cup. Mr. S. Hurford, gardener to R. J. Critchley, J.P., Hurst House, Dewsbury, was second, and Mr. J. Davis, gardener to G. Sheard, Esq., The Woodlands, Upper Batley, third. In the smaller classes for cut blossoms the same three gentlemen secured all the prizes with varying success all through. The silver challenge cup for a group of Chrysanthemums only brought one exhibitor—viz., Mr. J. Davis, who has an unbroken record of success in this class. The prizes for decorated fire grates, mantles, and mirrors, a new class, brought three exhibits, which created considerable interest, Messrs. Hurford, Robinson, and Jackson winning in the order named. Another new class for hanging baskets proved worthy of encouragement, Messrs. Hurford, Jackson, and Robinson securing the prizes.

SENECIO GALPINI.

A PLANT of this rare Composite may now be seen in flower in the Mexican house at Kew, where it was received in the first place, about eight years ago, from Mr. Galpin, as an unnamed species from the Transvaal, and on flowering it was named after the donor.

Whether in or out of flower it is decidedly ornamental, and it strikes one as being a plant which will be popular, as it becomes better known, for the greenhouse. The one now in flower is one of the progeny of the original plant, and is about 15 inches high, with two main branches. In its early stages a rosette of leaves is formed close to the ground with very little stem. As it gets near a flowering size the stem elongates, and a large branched head of inflorescences is formed from each growth. The flower heads are about 1½ or 2 inches across, and are made up of tubular orange coloured florets, enclosed in an involucre of glaucous bracts. The whole of the stem and leaves are glaucous and fleshy. The leaves vary in size from 2 to 6 inches in length, and from half to 1½ inch in width.

At Kew it is planted out in a border with succulent plants, and is given the same treatment as it is usual to give to that class. It can be grown well in pots, and cuttings rooted in February make capital plants in 5 or 6-inch pots for flowering during autumn.—W. D.

TRICYRTIS HIRTA.

THIS, "H. F. F." is the name of your specimen, which is depicted in fig. 69. It is a herbaceous perennial that is seldom seen, and produces its flowers from the axils of the leaves on the upper part of the stems. The latter usually reach a height of 3 to 4 feet, and bear numerous sessile, clasping, hairy alternate leaves. The flowers are white, thickly dotted with purple, the divisions of the perianth being slightly recurved. The plant is hardy, and will thrive extremely well in a sheltered border composed of sandy loam and peat; but as the flowers appear late in the season, the leaves are often by that time shrivelled, and present a very unsatisfactory appearance. For this reason the plant seems to be best suited for pot culture, and it is well adapted for growing in a greenhouse or any structure of a similar temperature. The flowers also are seen to much greater advantage when near to the eye than if the plant occupies a border, where the fine markings of the sepals are quite lost. It can



FIG. 69.—TRICYRTIS HIRTA.

scarcely be imagined what pretty little buttonholes the flowers make when mounted, and they are also well suited for bouquets. During the time the plant is growing freely, and until the flowers are produced, abundant supplies of water will be required, but after the flowers have faded water must be given in smaller quantities, only sufficient to keep the soil slightly moist. The pots must be thoroughly drained, and the soil employed should consist of loam, sand, peat, and a small proportion of leaf soil may be added. The species is a native of Japan, and was introduced into this country in 1863.

THE YOUNG GARDENERS' DOMAIN.

HARDY CYCLAMEN.

I THINK most lovers of hardy plants will coincide with me in saying that hardy Cyclamens deserve wider attention than is accorded to them at present, and that they are as worthy of culture for the adornment of the pleasure grounds as the tender Persian Cyclamen are for the houses in winter and spring. Though a half-shady position, in a slightly sheltered spot, suits them best I have seen plants blooming very freely in a more

exposed site. Of the several varieties grown I have found *C. hederæ-folium* and *C. album* flourish the best. We have some planted under a west wall, and slightly screened by shrubs, which have been in bloom for over a month, and give promise of a further supply. The charming little flowers tend to lighten many a dull spot, while their prettily marked foliage is in itself a distinct ornament. *Europeum* is a fine variety, but not quite so graceful as those mentioned.

While on a visit recently in the neighbourhood of Torquay with a friend, we had the good fortune of looking over the picturesque grounds of Upton Leigh, which are situated on very high ground, and here we saw the charming plants growing in a natural state, and in great profusion all over the grounds, where they had themselves seeded and sprung up. Go where you would there were these lovely plants, even on a high dry bank partly exposed to the sun. Mr. Lee, the gardener, showed us some corms which were partly exposed, apparently through the rains washing away the soil, and which must have been at least 5 inches across, resembling the gnarled root of a tree. I venture to say that had my readers, or the most disinterested person, seen these plants at their best, they could but show some admiration at the pleasing effect.—PARVO.

VIOLET CULTURE.

So many excellent methods of growing Violets have been described in these columns that one may well say, Which is the best? But of course each grower has to find out which is the best adapted for his place, for what will suit one may not suit another, however good that plan may be. For example, a garden lying extremely low will need different tactics to one the reverse. Unfortunately, we have the former to contend with, which handicaps us in many ways.

Of the various ways of growing the Violet we find the one appended answers us best. We commence operations early in April, taking cuttings of a sturdy nature with as much foliage as possible, and insert them in shallow boxes, using a compost of old potting soil and leaf mould, with a fair sprinkling of road grit or sand. These are inserted moderately closely together and firm, are watered and placed in a cold frame, keeping rather close till they have recovered somewhat. More air is then admitted. Great care is exercised not to allow them to flag, the syringe being used morning and night, shading when necessary.

By the middle of June they are ready to plant out in beds previously prepared, with full exposure to sun, given a thorough watering, and on the approach of strong sunshine we shade with small boughs of trees. We make it a regular practice to use the syringe, which tends to keep the foliage free from red spider. A dressing of Mushroom bed refuse is used as a preventive against evaporation, while all runners are kept pinched off the plants, and beds free from weeds.

Their winter quarters are in frames, placed on low beds made from any rubbish and leaves from the garden. On the top is put old potting soil and leaf mould about 1 foot in depth. The plants are carefully lifted with a reasonable amount of soil attached, so as not to damage the roots. After planting the beds receive constant waterings until thoroughly soaked, as it saves watering in the dull months. The lights are kept off for a time, unless a few early blooms are wanted. As regards the time of planting, we are governed by the season. This season we did not plant till the first week in October. Our varieties are *Marie Louise*, *La Parme*, double blue; and *Comte de Brazza*, double white. As to the healthiness of the plants, they are all on a par with one another; the former is the most vigorous, and just now is giving a grand display of flowers, of which I enclose a few; the other buds are not so forward.—PARVO.

[The flowers were delightfully fragrant, and proved by their size and substance that the methods of procedure above advocated are sound if carefully followed.]

LEICESTER VEGETABLE SHOW.—We have received a list of the awards that were made at the root and vegetable show of Messrs. Harrison & Sons on the 9th inst. It is now the 24th, and as we have more recent matter for which room cannot be found this week it is not practicable to publish the list in question. Potatoes and Onions are said to have formed the leading feature of the show, which was marked by superior quality.



FRUIT FORCING.

Cucumbers.—Winter-fruiting Cucumbers are often failures, this being chiefly due to a deficiency of heating surface combined with an arid atmosphere. Sharp weather necessitates brisk firing, which, when there is little piping, dries the atmosphere, causing excessive evaporation from the foliage, and it becomes crippled in consequence; the fruits are also stunted and swell indifferently, and where the pipes are in close proximity to the roots the soil is dried too much, and the growth is consequently not healthy. Heat radiated at a high temperature is not good for vegetation, and when the water in the pipes has to be kept near boiling point failure is almost inevitable—besides, it is highly wasteful of fuel. Admit air very carefully, yet afford a little whenever a favourable opportunity offers, excluding it, however, when the external is sharp and cold, turning off the top heat when the sun is powerful and likely to raise the temperature above 90°.

In bright weather damp the house morning and afternoon, closing early, but be careful not to wet the embryo fruit, for water hanging from it will cause decay. Water will be needed at the roots about twice a week, always affording it equal in temperature to that of the bed. Maintain a night temperature of 60° to 65°, and 70° to 75° by day, advancing to 90° from sun heat, and endeavour to enclose as much sun heat as safe.

Figs.—*Earliest Trees in Pots.*—To have ripe fruit at the end of April or early in May the trees must be started early in December, therefore dress them with an insecticide, applying it with a brush to every part, care being taken not to rub off the immature fruits, nor damage the points of the shoots. The trees should be placed on loose brickwork pillars, so that they may not settle with the fermenting material, which being placed in the pit and brought up about the pots will afford a gentle warmth, but the heat about the pots must not exceed 65° until the trees are fairly in growth. The top heat may be 50° to 55° at night, and 65° by day, the trees and house being damped in the morning of fine days, and again early in the afternoon; but it must be done sufficiently early to allow the trees to become fairly dry before night. Tepid water must be given at the roots to keep the soil thoroughly moist, but not making sodden by needless applications. Early Violet, St. John's, Pingo de Mel, and Brown Turkey are excellent varieties, and give good results in both first and second crops under proper management. One of the most important conditions is to avoid a very close moist atmosphere at the commencement; the moisture arising from the fermenting material, with an occasional damping of the paths and walls, will be sufficient in dull days.

Pines.—*Successional Plants.*—Span, or three-quarter span-roofed small houses or pits properly ventilated are the most suitable for small stock, which at this season often suffer irreparable injury from being kept too close and warm, the plants being drawn and weakly. A temperature of 60° at night, and 65° in the daytime, will keep all young stock gently progressing, admitting a little air at 65° at the top of the house, leaving it on all day, but not to lower the temperature below that point, and when the sun raises the temperature to 75° a free circulation of air should be allowed. The bottom heat ought to be kept steady at 80°. Avoid anything approaching to a damp atmosphere; moderate humidity only is needed at this time of year. Apply water when the plants become dry, and then afford a thorough supply of weak liquid manure. It is essential that the plants be kept well up to the light, but not touching the glass, and be given plenty of room.

Suckers.—Those ready for starting should be kept until March, and if there is likely to be a scarcity of suckers, any recently potted may be retained in 5-inch pots, affording them a light position in a rather low and moist pit, with a temperature of 55° at night and a slight bottom heat, keeping them rather dry. Take every opportunity of collecting leaves whilst dry, Oak and Beech being the best, and whenever a favourable opportunity offers push forward whatever may be necessary in the renewing or augmenting the fermenting beds, effecting this without giving a check to the plants.

Strawberries in Pots.—A start must be made early in next month to have fruit ripe early in March. La Grosse Sucrée has been our standard early forcing variety for many years, and we have not found any other so generally reliable. Vicomtesse Hericart de Thury usually shows and sets abundance of fruits, and these, if well thinned, attain a good size. Royal Sovereign has displaced the last named variety to a great extent, as it is excellent for early forcing, a capital cropper, bright in colour, with good aroma, and first-rate in quality. The older varieties, such as Keens' Seedling and Sir Harry have fallen into the background, but they are still good for second early forcing, the dark colour and high quality being esteemed at table. Noble and Auguste Nieaise have fine-looking fruits, and brought on slowly may be started with the preceding varieties, assigning them positions on shelves in Peach houses. The others, to fruit at the time named, will require forwarding in a Strawberry house.

The plants to be introduced should have the drainage seen to, rectifying it if defective, making sure that it is free, removing the loose surface soil, and supplying a top-dressing of sweetened horse droppings or dried

cow manure rubbed through a half-inch sieve, adding a good handful of steamed bonemeal to every peck, then watering with a rose to moisten and consolidate the material. Pots may then be placed in position, after removing the decayed leaves only, taking care to keep the soil moist, for dry soil causes the loss of roots, but only supply water when necessary, as a soddened soil ruins the plants.

HARDY FRUIT GARDEN.

Planting Fruit Trees.—*Preparing Ground.*—Where the soil has not been prepared for planting fruit trees it ought to be dealt with at once. Thoroughly deep digging is of the greatest importance—that is, the complete moving of the soil to the depth of 2 feet. Should the ground be light and dry it may with advantage be worked deeper. Shallow soils must, if possible, be deepened, either by the addition of fertile material or the removal of a foot of inferior subsoil, filling up with new soil. Avoid adding manure to the soil just previous to planting, especially when the manure is of a fresh, rank character. Newly dug ground must be made firm before it becomes wet. That which has been prepared for some time has had a chance of consolidating.

Preparation of Stations.—It is not always convenient to dig the whole of the ground on which fruit trees are to be planted, hence stations may be prepared. The width of the stations necessary is 6 to 9 feet. In a circle of this diameter the soil should be moved to the depth previously mentioned. If the subsoil is found wet or inclined to be waterlogged a layer of stones or brick ends may be placed at the base, covering with turf. Leaving the soil a little higher than originally will be an advantage. In dry situations drainage will not be necessary, and the soil should be kept to the original level.

In any attempt to enrich the soil give preference to the introduction of good loam rather than manure, which is liable to promote growth of too luxuriant character.

Preparing Wall Tree Borders.—The permanent width of wall tree borders ought to correspond with the height of wall when the trees are on free stocks. Cordons and trees on dwarfing stocks succeed on comparatively narrow borders, but the soil must be good and well prepared in the first instance. Stone fruit trees demand a rooting medium of a calcareous nature, hence soils which are insufficiently supplied with lime ought to have this essential added, either in the form of lime scraps or old mortar. Trench the border 2 feet deep, adding the additional materials required as the work proceeds. It is advisable to give uniform treatment to the whole of the border, and not merely to a limited space where the trees are planted.

Selection of Trees.—Properly trained, clean, healthy, and well-ripened trees, well furnished with fibrous roots, ought in all cases to be preferred. The best standard varieties suitable for the position and purpose required must be chosen. Cheap and unnamed trees are not reliable. The best trees can be secured from the leading fruit nurserymen at a reasonable price, and as a rule they can be depended upon to be what they are stated, hence they are the cheapest and most satisfactory in the end.

Treatment of Trees Before Planting.—Good nurserymen pack and deliver their trees in proper condition, and the planter on receiving them must endeavour to keep the roots fresh and uninjured until an opportunity for planting arrives. The trees must be laid in with the roots in damp soil. Long exposure to and drying in the air are fatal to young fibrous roots. Immediately preceding planting the roots must have all injured portions pruned away, making clean upward cuts slantingly. Very long roots may be considerably shortened.

Planting.—Before raising the trees from their temporary quarters the holes to receive them may be prepared in readiness. They must be wide and shallow, deep planting not being advisable. Material for spreading over the roots should be laid in readiness. This may consist of loam and wood ashes. The base of the holes ought to be somewhat convex or mound-like. The lower roots should be spread out on the mound in a regular even manner. Secure them in position by sprinkling some of the light prepared soil over them from the stem outwards, and then a layer of ordinary soil. Another layer of roots may then be arranged, covering all carefully with fine soil as before, thus insuring that the extremities of the rootlets are not turned upward or backward. Although it is essential to make the soil about the roots tolerably firm, it is not advisable to stamp and tread the material with the feet. Doing so may cause a tension and pressure upon the fibres which will injure or break them.

Staking.—Standard and other trees which need support ought to have the stakes fixed at the time of planting. Secure the stems carefully so as not to injure the bark. Trees that are to be trained on walls and fences should only be lightly secured thereto at first, so as to allow the roots and soil to sink in position.

Watering.—Water will be necessary if the soil is at all dry. It also assists in consolidating the soil among the roots.

Mulching.—In order to cover the double purpose of retaining moisture in the soil, and as a protection against frost, a mulching of littery or half-decayed manure may be spread over the roots. This is better than wet or thoroughly decayed manure.

FUNKIA SUBCORDATA GRANDIFLORA.—How seldom do we see this Funkia growing in private gardens, yet its merits deserve wider attention than it receives. In a cut state its stately spikes of pure white fragrant blossoms resemble various members of the *Pancratium* family. Flowering as it does in the open border in September and October, it is useful for wreath or even bouquet making. The broad, glaucous, pale green foliage alone renders it valuable for the subtropical garden.—E. M.

THE BEE-KEEPER.

BEE-KEEPERS' REQUIREMENTS.

It is somewhat disheartening to a beginner in bee-keeping to peruse a catalogue issued by many manufacturers of bee hives, in which are freely illustrated articles of supposed value to advanced bee-keepers. Many of them are of little use to the practical apiarist, and with a view to assisting those who have not had experience in the matter, we will mention a few articles that are really necessary to the beginner.

After deciding on the class of hive intended to be used, one can be purchased and others made from the pattern. With a little practice the most timid bee-keeper will soon learn to handle bees without gloves. It is different, however, with a veil for the face, which we would advise beginners to use at all times whilst manipulating. The veil should be made of some dark coloured light material which will fit over the hat and be carried in the pocket when not in use.

A smoker, too, is a necessity. We prefer the Bingham with a tin guard over the tube. This will prevent the hand being burnt in case the smoker is incautiously laid hold of. The Bingham is strongly made, and with care one will last for several years. It has the advantage, too, of not being particular as to the kind of fuel used, brown paper, corduroy, rags, or old sacking answering admirably.

A pair of knives for uncapping should be obtained, those with a bevelled edge are the best. We prefer the Bingham of English make; they are about 2 inches in width, and being specially made for the purpose will last a lifetime. The reason a pair is recommended is that they always work better when used warm, for this reason one may be kept in warm water whilst the other is being used.

A tin box for carrying the frames when full of honey, or at any other time when it is necessary to keep the bees from gaining admittance, should be made for the purpose, of the same width and depth as the frames, with projections at each end for the frames to rest on. A handle ought to be placed on the top, so that it may be easily carried. One holding eight frames will be quite large enough.

A good extractor is one of the most expensive items. It is, however, much better to obtain a thoroughly reliable article at the commencement than to buy an inferior machine which will require a great amount of labour in manipulating it. We prefer a cylinder extractor with cog gearing, taking two combs in standard size frames, and having swinging reversible cages. They are made of strong black tin, and are about 2 feet high and 16 inches across. An extractor of this description will hold 80 lbs. of honey under the cages before it will be necessary to run it off, which is done through a valve at the bottom of the machine.

We have a machine similar to the above which has been in use for nearly twenty years, during which time it has extracted many tons of honey, and to all appearance it is as good now as when first obtained. It cost 2 guineas. An extractor suitable for a bee-keeper having one or two hives may be obtained for 8s. 6d.; but to anyone who anticipates keeping bees largely we would strongly recommend the larger size.—AN ENGLISH BEE-KEEPER.

BEGINNING WITH BEES.

If "R. W. G." will refer to page 387, he will find the majority of his questions answered. Some notes on the different varieties of bees will appear at an early date. We do not know if the county in which "R. W. G." resides can boast of a bee keepers' association; there was one a few years ago, but it may not now be in existence. The information, however, may be obtained by forwarding a stamped addressed envelope to the Secretary, British Bee-keepers' Association, 105, Jermyn Street, S.W. This is the parent association, of which the Baroness Burdett-Coutts is the President.

TRADE CATALOGUES RECEIVED.

W. Barron & Son, Elvaston Nurseries, Borrowash, Derby.—*Trees.*
Dammann & Co., Naples.—*Seeds.*
Hogg & Wood, Coldstream.—*Trees and Shrubs.*
Kelway & Son, Langport.—*Wholesale List of Gladioli.*
E. Wiseman, Elgin.—*Trees and Shrubs.*

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary,* Mr. G. J. Ingram, 175, Victoria Street, S.W.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary,* Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary,* Mr. A. F. Barron, The Royal Gardeners' Orphan Fund, Chiswick, W.

TO CORRESPONDENTS

All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Green Labels (W. F. M.).—First paint the labels a pleasing green, then write the names with a camel's-hair brush, using a mixture of one part of poppy oil and two parts of gum mastic worked into good white lead until it is the consistency of cream.

Book of the Rose (Morning Cloud).—The book you name is an excellent one, and is published by Messrs. Macmillan & Co. We do not recollect the exact price, but you can obtain it through a good local bookseller, or from the publishers, St. Martin's Street, W.C. Your other question shall have attention.

What is an Amateur? (Constant Reader).—We publish your case, as follows:—"A has retired from his profession as a medical man, and follows the cultivation of flowers as a hobby. A does most of the work himself, but employs B, a jobbing gardener, about three hours a day to do the rough work in the garden, and occasionally in the greenhouse when any potting is being done. Will employing B constitute A a professional gardener, and debar A from showing in the amateur classes at the shows? Or, in other words, what is the definition of a professional gardener and an amateur?" In reply we take a citation from Mr. J. Wright's paper on "Horticultural Exhibitions and Schedules," in the Journal of the Royal Horticultural Society, vol. xxi., part 3, April, 1898. "In the schedules and at the exhibitions of the Royal Horticultural Society the established rule is to regard all competitors as 'amateurs' who are not nurserymen. This broad distinction meets the requirements of the chief society fairly well, but it is very far from meeting those of the overwhelming majority of local societies. This is recognised in the Society's excellent code of 'Rules for Judging.' After the statement that 'no person shall be allowed to compete as an amateur who cultivates plants (or other garden produce) for sale,' it is recommended that doubts as to the qualification of an exhibitor be referred to the committee of the show for decision. Very good advice it is, but unfortunately many committees find it difficult to decide the point, and disputes appear to go on as briskly as ever among the several persons interested. A fact to be kept in mind in considering this amateur question is that the rich can, and hundreds of them do, love gardening as intensely as the relatively poor, and the comparatively poor can, and happily thousands of them do, love it as ardently as the relatively rich. We must then for practical purposes divide them into two intelligible sections, both rendering good service in a common cause—namely (1) amateurs as patrons of gardening; (2) amateurs as the actual workers of their own gardens. The former may employ as many gardeners as they wish, provided they do not grow for sale. They are then well within the meaning of the term 'amateur,' from the Latin *amator*, a lover of any particular art, but not profiting by it. The definition of the second and larger section, for the purpose of exhibiting, varies somewhat in different localities, but generally the qualifying conditions are well set forth in the rules of the 'National Amateur Gardeners' Association' as follows:—"No person shall be eligible for membership who disposes of plants, flowers, seeds, or trades in garden produce for profit, or is in the employ of a nurseryman or gardener, or is employed as a gardener. Occasional help from a labourer in digging, wheeling, or similar rough work is allowed. All other actual cultural work this type of amateur must do with his own hands." By some societies a person is not allowed to exhibit in the amateur classes if he has the aid of any paid assistance, directly or indirectly, in working his garden. Whatever the show regulations may be, they must be strictly complied with. An admirable example of amateurs of the first class is found in the President of the Royal Horticultural Society, Sir Trevor Lawrence, Bart., who has sought unwearily for a number of years, by precept and by example, to create interest in and to advance the prosperity of British gardening. A worthy specimen of the second class is afforded by Mr. Alfred Lewis

of Beckenham, who is employed daily in London from 9 A.M. to 7 P.M.; yet he trenches with his own hands all the available parts of his garden in the autumn by lamplight, and won fifty-three prizes in 1897, also the silver medal as the most successful amateur exhibitor at the great Co-operative Festival Show held at the Crystal Palace in August of the same year." A would undoubtedly be eligible as an amateur to exhibit at the Royal Horticultural Society's shows, and also at those of the National Amateur Gardeners' Association; but for the implied circumstance of the gardener doing potting and other light work in the greenhouse, because the amateur under the rules of the N.A.G.A. must do all except "rough" work of the nature indicated "with his own hands." Committees of local societies should state clearly in their schedules what is meant for the purpose of exhibiting at such shows by an amateur, and the regulations must then be complied with, whatever they are, as any clear departure from them would justify disqualification.

Mushrooms from under Laurels (*Mushroom*).—The Mushrooms found growing under some Laurels with Oak and Ash trees above them are the variety of the common Mushroom named *Agaricus campestris* var. *silvicola*, *Vittadini*, and with all the other varieties of the species are edible. They, however, are much stronger smelling, and on that account more desirable for ketchup than for cooking purposes. This variety frequently grows in woods where there are a quantity of leaves along with several others, including the very variable cultivated one *A. c. hortensis*, and great care is necessary in gathering them so as not to include poisonous species. Those with a good knowledge of field and cultivated Mushrooms can hardly make a mistake in this respect, taking care that the gills are pink when young and the smell that of Mushrooms.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (W. F.).—4, Hanwell Souring; 5, Round Winter Nonesuch; 6, Cui Tail; 7, Winter Codlin; 8, Normanton Wonder (Wellington); 12, Gascoyne's Seedling. (J. H.).—The Pears are probably local varieties; the dark one was coarse in flesh and worthless, and the lighter one quite rotten. (H. E. M.).—1, Hanwell Souring; 2, possibly Hambledon Deux Ans; 3 and 4, unfortunately stalkless, but we suspect both to be seedling variations of the Red Baldwin; 5, Winter Russet; 6, Round Winter Nonesuch. (E. R. W.).—1 and 5, Durondeau; 4 and 6, Glou Morceau. In each case we think the slight differences are due to stock influence. (Danetree).—Pears: 1, Doyen é du Comice; 2, Glou Morceau prematurely ripened. Apples: 1, Dredge's Fame; 2, Adam's Pearmain; 3, not known, probably local; 4, Round Winter Nonesuch. (E. D.).—Queen Caroline. (Alec).—1, Bergamot Sageret; 2, possibly a small fruit of Uvedale's St. Germain; 3, Pitmaston Duchess; 4, Winter Russet; 5, Barchard's Seedling; 6, Wellington. (W. F. M.).—1, Wollaton Pippin; 2, Hambledon Deux Ans; 3, Barchard's Seedling; 4, not known, probably local; 5, Five-crowned Pippin; 6, Beurré Duval. Presumably all the specimens are from old trees. (S. K.).—A fine specimen of Beurré Hardy. (J. E. D.).—1, Striped Beefing; 2, Devonshire Queen; 3, Cox's Pomona; 4, imperfect fruit, unrecognisable; 5, Duchesse d'Angoulême; 6, Durondeau. (A. C.).—1, malformed, possibly Beurré Superfin; 2, Buerré Berckmans; 3, resembles an early-ripened fruit of Marie Benoist; 4, Beurré Capiaumont; 5, Hanwell Souring; 6, small Winter Nelis.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (H. F. F.).—*Tricyrtis hirta*; see note and illustration on page 406. (W. L.).—1, *Lælia anceps*; 2, *Cypripedium caudatum*. (E. O.).—1, *Impatiens Hookeri*; 2, *Centropogon Lucyanus*; 3, *Woodwardia radicans*; 4, *Pteris serrulata cristata*. (N. D.).—1, *Lycaste Skinneri*; 2, *Lælia autumnalis*; 3, *Hoya carnosa*. (C. C.).—1, *Lomaria gibba*; 2, *Cyrtomium falcatum*; 3, *Adiantum cuneatum grandiceps*. (Capel).—*Osmanthus japonicus*.

COVENT GARDEN MARKET.—Nov. 23RD.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve ...	1	3 to 3	Lemons, case ...	30	0 to 60
Cobs ...	50	0 55	St. Michael's Pines, each	2	6 5
Grapes, lb. ...	0	10 1			

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0	0 to 0	Mustard and Cress, punnet	0	2 to 0
Beans, $\frac{1}{2}$ sieve ...	0	0 0	Onions, bushel ...	3	6 4
Beet, Red, doz. ...	1	0 0	Parsley, doz. bnchs. ...	2	0 3
Carrots, bunch ...	0	3 0	Parsnips, doz. ...	1	0 0
Cauliflowers, doz. ...	2	0 3	Potatoes, cwt. ...	2	0 4
Celery, bundle ...	1	0 0	Salsafy, bundle ...	1	0 0
Coleworts, doz. bnchs. ...	2	0 4	Scorzonera, bundle ...	1	6 0
Cucumbers ...	0	4 0	Seakale, basket ...	1	6 1
Endive, doz. ...	1	3 1	Shallots, lb. ...	0	3 0
Herbs, bunch ...	0	3 0	Spinach, pad ...	0	0 0
Leeks, bunch ...	0	2 0	Sprouts, $\frac{1}{2}$ sieve ...	1	6 1
Lettuce, doz. ...	1	3 0	Tomatoes, lb. ...	0	4 0
Mushrooms, lb. ...	0	6 8	Turnips, bunch ...	0	3 0

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6	0 to 36	Ficus elastica, each ...	1	0 to 7
Aspidistra, doz. ...	18	0 36	Foliage plants, var., each	1	0 5
Aspidistra, specimen ...	5	0 10	Lilium Harrisii, doz. ...	12	0 18
Crotons, doz. ...	18	0 24	Lycopodiums, doz. ...	3	0 4
Dracæna, var., doz. ...	12	0 30	Marguerite Daisy, doz. ...	6	0 9
Dracæna viridis, doz. ...	9	0 18	Myrtles, doz. ...	6	0 9
Erica various, doz. ...	9	0 24	Palms, in var., each ...	1	0 15
Euonymus, var., doz. ...	6	0 18	" specimens ...	21	0 63
Evergreens, var., doz. ...	4	0 18	Pelargoniums, scarlet, doz.	4	0 6
Ferns, var., doz. ...	4	0 18	" "	8	0 10
" small, 100 ...	4	0 8	Solanums, doz. ...	6	0 12

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch ...	2	0 to 2	Marguerites, doz. bnchs.	2	0 to 3
Bouvardias, bunch ...	0	4 0	Maidenhair Fern, doz.		
Carnations, 12 blooms ...	1	0 2	bnchs. ...	4	0 6
Chrysanthemums, per beh.	0	3 2	Mignonette, doz. bnchs. ...	1	6 3
" specimen			Narcissus, doz. bnchs. ...	5	0 6
" blooms, per doz.	2	0 5	Orchids, var., doz. blooms	1	6 9
Eucharis, doz. ...	3	0 4	Pelargoniums, doz. bnchs.	4	0 6
Gardenias, doz. ...	1	0 2	Roses (indoor), doz. ...	2	0 4
Geranium, scarlet, doz.			" Red, doz. ...	2	0 0
bnchs. ...	0	6 0	" Tea, white, doz. ...	2	0 3
Lapageria (white) ...	1	6 2	" Yellow, doz. (Perles)	2	0 3
" (red) ...	1	0 1	" Safrano (English) doz.	1	0 2
Lilium lancifolium, white	3	0 4	" Pink, doz. ...	2	0 4
" pink	3	0 4	Smilax, bunch ...	1	6 2
" longiflorum, 12 blooms	6	0 8	Violets ...	0	9 2
Lilac, bunch ...	5	0 6	" Parme, bunch ...	2	9 3
Lily of the Valley, 12 sprays	0	9 1			



THE ADVANTAGES OF COLD.

OPEN weather is all very well—it is pleasant, it puts off winter, it enables us to economise our artificial foods, we get arrears of work out of hand, men are in full employ. In a season like the present, where, after a prolonged drought, the land was like iron, this beautiful St. Martin's summer is welcome indeed. The long delayed rains fell plentifully, the land became workable, and corn sowing was the business of the hour. The Mangold plant received a fresh lease of life, and materially increased in bulk.

But there is a danger that open weather may last too long. Ask the farm horses. They had the heavy toil of harvest and the heavier toil of turning over the land for next year's crop; then came all the carting of the precious Potatoes and the equally precious Mangolds; then every odd hour was filled up with "muck" leading, so that the horses have had their full meed of work. And work in damp, muggy weather over clogging land or heavy roads is work indeed.

A timely snowfall would keep new sown Wheat snug and warm, and would obviate the necessity of the tenting boy—he is a necessity where larks abound, and the marvel is where these ubiquitous birds come from. They rise, as it were, out of the ground, and instinct

takes them to the freshly sown Wheat, where, at any rate, they get their tithe—get it first before the farmer or parson has a look in. We always fancy, too, store cattle do better in clear frosty weather, and certainly sheep have a drier layer. Horses, too, rejoice in a rest, whole or partial, and when snug in the stable do not make such large demands on the corn bin. Many folks, too, are now anxious to do a bit of pig killing; but it is a serious consideration whether bacon will really cure well with so high a temperature as now exists. We know well that before these notes get into print the glass may register zero, but at present there are no signs of a change.

A little real good frost would considerably "harden" the Potato market, which is at present quoted as "dull." We would warn Potato sellers not to send off trucks to distant markets unprotected by straw, and plenty of it, as it is the unexpected that always happens; and it is an awful "pull off" on the money returns to find so much deducted for frozen and spoiled tubers. An open winter for pastures is not an unmitigated blessing. One is apt to stock too long and too heavily; grass wants a rest as well as other things, and there can be no good "bite" in spring where the fields have been trodden over and nibbled during the winter.

Of course, if we belong to the hunting fraternity, we think differently, especially if we have some promising "gees" to dispose of. An open winter is our opportunity, and more so if it is open up to Christmas. We were struck to-day by a statement in a local paper to this effect, that good carriage horses were impossible to find, but that hunters were plentiful. We should like to know where. It is not in any known part of England; but, of course, we know there are hunters and hunters. We refer to those who do not keep to the road; who do not dodge from cover to cover, and who can negotiate the plough without wishing their term of life was over. These are not plentiful, even where the buyer goes with a full purse. They are like the ideal horse of Lord Geo. Bentinck, that could walk five miles an hour, trot fifteen, and gallop twenty—almost unattainable. But we are very much off our text, and must bark back again.

Turning to the advantages of artificial cold, we were interested much in reading how cold storage is being utilised to bring producer and consumer into closer touch. We have tried (with indifferent success) to get up a healthy liking for tinned meats and fish, and although they are useful and cheap, many of us look doubtfully at them. The same does not apply to food which is brought to our shores in a frozen or "chilled" condition—that is fancied and appreciated by many; yet we doubt if, as a community, we realise the immense strides that this branch of importation has made during the last twenty years.

Take imported butter—one of the most perishable of foodstuffs. In 1888 Australia sent us 352 tons, Canada 465, New Zealand 790. The quantities fluctuate, but we will look on for nine years, when we find that in 1897 Australia sends 91,718 tons, Canada 5470, New Zealand 3826. The trade is growing, and we should have had more Australian butter to report except for the great drought which has prevailed for the last three seasons.

Now then for other food supplies. In 1880 400 frozen sheep were despatched from Australia; in 1881, 17,275; in 1882 New Zealand sent 8800; in 1883 Argentina 17,000; and last year, 1897, the grand totals were—Australia, 1,394,500; New Zealand, 2,696,000; Argentina, 2,068,000 sheep carcasses. Then, again, come to these shores not alone beef and mutton, but rabbits by the ton. In 1897, from Australia, 10,000 tons of rabbits (how many go to make up a ton?); frozen salmon from British Columbia; trout from New Zealand; turkeys from Canada, and fowls from Russia.

Owing to swine fever, which really seems to beat all our skill to exterminate, the Americans have found in our towns a market for fresh pork, which reaches us in capital condition. It may not be known to all our readers that several butchers and large dealers in perishable foods have provided for themselves in many towns cold stores where their provisions may be kept in excellent order till needed. The butcher, the fishmonger, and game dealer in the past have had to be prepared to meet all emergencies of weather, and we know to what great loss they have been often subjected. These losses may now be things of the past. There is no need to spoil the market and sell at an alarming sacrifice because the weather is against further keeping—the goods are stored; improve rather than deteriorate, and loss is reduced to a minimum.

There are stores, we believe, in London and other large towns, where customers may keep their surplus game till they need it. Epicures like things out of season, and a pheasant in June is now quite possible without infringing any known game law.

WORK ON THE HOME FARM.

Beautiful weather, mild and spring-like, gives us no cause for even a small grumble; everything is favourable for completing the autumn work, and though a rising glass and the formation of large anti-cyclonic areas are signs of colder weather, there should be plenty of time to clear off all arrears before winter sets in.

The mild weather is very favourable for Cabbage planting. The plants are now plentiful and cheap, and the land may soon be got ready; clean stubble that has been autumn fallowed is best, and the land must be fairly good. Weak sand will not do, but any other land will grow Cabbage, heavy soils being the best. Fifteen loads of muck per acre must be spread on the surface and ploughed in a good depth (say 8 inches) with the ordinary plough. The Cabbages may then be planted in rows in every third seam, which will make the rows about 27 or 28 inches apart.

The plants will cost 1s. 6d. or 2s. per 1000, and another shilling will pay for the planting. About 15,000 will be required per acre, and the best sorts are Enfield Market, Early Sheepfold, and Early Drumhead.

If a large area be planted, we should advise that a portion be set with Enfield Market or Early Sheepfold, and the remainder with Drumhead. The two first would be well hearted and ready for use by July, whereas the Drumhead would not be ready until September.

We hear of smutted Wheat this season, also of adulterated—or, rather, falsely named—vitriol for Wheat dressing. This latter is called blue vitriol powder, but is really green vitriol coloured blue. As green vitriol, or sulphate of iron, is useless as a Wheat dressing, it behoves farmers to be careful what they use. A case has just come under observation where, through careless dressing, a field of Wheat was affected by smut, and the farmer, having just thrashed, is obliged to sacrifice 1s. 6d. or 2s. per quarter in price, apart from a certain loss in the yield.

Another farmer dressed none of his seed Wheat last year, partly to save the trouble and partly to see the result. The latter has been such that he will not try such an experiment again. The variety of smut above referred to is properly known as bunt.

TURKEYS VERSUS FOWLS.

UNDER the tempting heading of "A Fortune in Fowls," a correspondent, "H. F.," described on page 370 the sale of fowls per couple (live weight 11½ lbs.) at 4s. in a local market, and somewhat despairingly asked, "Where does the profit come in?" We ventured to add, from the eggs they produced (if any), as obviously there could be no profit on the birds. The "if any" was a fortunate interpolation, for "H. F." writes again thus:—"I never sell pullets. The birds were cockerels, and in my county they are not so advanced as to lay; so how still is profit to be made—fowls, live weight 11½ lbs., price 4s. per couple?"

We give it up; but may also venture to give a little advice. Rear, fatten, and dress turkeys, with the same success that a novice in farming does—a close reader of, and apt learner from, our excellent series of "Home Farm" articles. We do not know that he gained the whole of his turkey information from those articles, but we do know that he has already sold 100 Christmas turkeys, guaranteed to weigh at least 20 lbs. each, for thirteen pence a pound, the purchaser paying carriage over a long distance to London. This seems better than 4½d. per lb. for the smaller fry, even if the fowls do weigh 11½ lbs. per couple, and a £100 cheque in one deal for the feathered subsidiaries of a small home farm is not to be despised in these days. The 100 turkeys sold by no means exhaust the stock, nor is their weight by any means limited to 20 lbs. each, and they will all be wanted, for there is always a demand for the "best."

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1898. November.	Barometer at 32°, and Sea Level	Hygrometer		Direc- tion of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Tempera- ture.			
		Dry.	Wet.			Max.	Min.	In Sun	On Grass		
	inches	deg.	deg.		deg.	deg.	deg.	deg.	deg.	inches.	
Sunday 13	29.866	47.8	47.0	N. W.	50.0	55.2	46.4	70.6	42.8	—	
Monday 14	30.305	41.2	41.2	N. W.	47.9	49.1	37.3	62.3	20.1	—	
Tuesday 15	30.323	48.3	47.1	W.	47.1	53.1	39.6	57.9	34.1	0.013	
Wednesday .. 16	30.250	53.1	52.6	W.	48.3	56.2	48.1	61.9	44.8	—	
Thursday .. 17	30.319	53.7	53.0	W.	49.8	56.4	52.1	58.4	43.7	—	
Friday 18	30.339	48.9	46.3	N. E.	50.0	52.7	48.1	74.2	40.9	—	
Saturday.... 19	30.235	47.8	45.3	E.	48.4	48.8	42.0	62.0	34.8	—	
	30.238	48.7	47.5		48.8	53.1	44.8	63.9	38.7	0.013	

REMARKS.

- 13th.—Shower at 2 A.M.; fine all day, with bright sunshine.
 14th.—Thick fog early; sun visible at 11 A.M., and bright from noon to sunset; foggy again after.
 15th.—Mild and overcast throughout, with occasional spots of rain.
 16th.—Overcast morning; faint sun in afternoon.
 17th.—Fog early; fair day, with the sun visible at times.
 18th.—Dry, fine, and generally sunny; bright night.
 19th.—Fair morning; sunny from 11 A.M. to sunset; a little fog in evening.
 Another warm week, with high barometer and scarcely any rain.—G. J. SYMONS.

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**Journal of Horticulture.**

THURSDAY, DECEMBER 1, 1898.

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GARDEN MANURES.

Of course these differ nothing from manures used in fields, but I employ the term because it is similar to that used by Mr. A. D. Hall, the able principal of the Wye Agricultural College, in connection with his recent lecture on these plant foods in gardens at the Drill Hall at Westminster. It is rather humiliating to us as a practical nation to find that even yet there should be, as strongly advocated by Mr. Hall, great need for practical simultaneous and widely spread experiments or trials with all descriptions of artificial manures on crops of all descriptions grown in gardens.

The suggestion that such experiments should be conducted by gardeners is hardly feasible, for the simple reason that gardeners have no time to devote to them systematically. Then garden soil is usually well furnished with humus, and to secure real tests of these manures they need to be employed on soils that are relatively poor, as it is only in that way they can be made to show their real properties as plant foods. Possibly we may be told that what is advised is, after all, but a reproduction of the Rothamstead experiments; but these have the demerit, if it be such, of being limited to one place only, and to one set of observers. Could a dozen or twenty stations be found in very wide districts, and on soils diversely constituted, then in the hands of patient and exact observers some results of a very tangible nature might be produced.

The past season's experience has shown that any series of experiments, to have practical value, would have to extend over at least seven years, as only in such a range of years could we expect to have dry hot seasons, cold wet ones, and those of an intermediate nature, when everything is so satisfactory meteorologically. But even were all this arranged for and carried out, it would be absolutely essential that the final returns should be sifted and summarised by some very capable person, who, whilst a scientist, should all the same have an absolutely open mind in relation to the merits or otherwise of artificial manures.

The past season, because so dry, saw dressings

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CATALOGUES ON APPLICATION.

No. 962.—VOL. XXXVII., THIRD SERIES.

of these manures, especially of phosphates and potash, almost if not absolutely inoperative as plant foods, while sulphate of ammonia and nitrate of soda were less useful as fertilisers through the exceeding drought than was common salt. In very wet seasons these manures soon wash out of the soil, and much waste ensues. It is in the average season that the truest results are obtained.

Certainly when artificial manures are applied in a dry state, without moisture they are useless, with too much moisture they are wasted, and with moderate moisture they are slowly dissolved, and thus capable of effective utilisation. It naturally becomes a question of importance as to the best conditions generally for the application of these manures. Ordinarily it is advised that the potash and the phosphate be applied in the spring, at the time of sowing or planting crops, the nitrates being applied after growth has commenced; but if phosphates and potash are long in dissolving may it not be better to apply them to the soil much earlier, so as to enable solution to be complete?

It is almost always found that their use in conjunction with animal manures produces the best results. That fact leads to the belief which some put into practice, of enriching their animal manures with chemicals, by mixing them a few weeks before adding the heaps of manure to the soil; but here again we have to consider the condition of the animal manure in question. There can be no doubt but that, in fields generally, and not infrequently in gardens, animal manures have wasted of their plant food fully 50 per cent. before employed, hence there is throughout the kingdom enormous loss in consequence.

It is small matter for wonder that a field crop is relatively poor when the manure dressing from the farmyard is thus weakened. There can be no doubt but that the enormous difference seen between garden crops and field crops is due, more than anything else, to the deep culture in the one case, and the shallow culture seen in the other. Practically the farmer has in his hard impervious subsoil that hardly ever gets broken up, and even if so, but a few inches, an immense reserve of plant food, of root area to furnish the same, and of greater moisture which is left unutilised.

In any trials or experiments with manures, conducted in relation to garden crops, no test would be of value that was not associated with soil worked fully 2 feet in depth. It may well be asked, how far in producing the change of manures which takes place in the soil bacteria plays a part. It really seems needful ere any true scientific deductions can be obtained through manure trials that the operations of bacteria should be clearly elucidated. We should want to know in such case the relative bacterial proportion found in each of the soils of the experimental stations in the first place; then we should want to know whether animal or natural manures, green or vegetable matter especially, were capable of more ready transfusion into plant food by bacterial agency, than artificial manures or otherwise. Of course many observers would be satisfied with noting the crop products of the dressings, but then such results would be apparent to any unlearned observer, yet have little scientific value.

It is when scientific men like Mr. Hall, Mr. Cousins, Mr. Henslow, and others enter into discussion of these most interesting subjects that we look for exact scientific data to be furnished. For my part I should immensely like to see something done as Mr. Hall has suggested, but on practical lines. In carrying out systematic experiments, however, the boomer of artificial manures of any description must be kept at arm's length. We want scientific and practical facts, and not quackery. Such a series of trials would be following the line suggested recently by Mr. G. Gordon in his advocacy of experimental horticulture.—A. DEAN.

[Unquestionably this is a subject of very great importance, because in the absence of exact knowledge on the effects of different manures on different crops in varying soils, nothing is more easy than to waste money in the purchase of "artificial," as we happen to know from experiments with many of them over a period of thirty years.

We were not able to attend Mr. A. P. Hall's lecture before the Fellows of the Royal Horticultural Society last week, but we know very well that the subject would be treated on thoroughly sound

lines, because while the Principal of the South-Eastern Agricultural College at Wye is an admittedly high scientific authority, he is also endowed with a practical mind.

Mr. Hall stands on a much higher plane than do the peripatetic lecturers who traverse the length and breadth of the land "free gratis for nothing," in extolling the virtues of products which, for the benefit of the community, including merchants, it is felt by the eloquent advocates should have a large sale. As the result of his own researches and experiments, Mr. Hall is convinced that the intelligent use of chemical manures, both as regards kinds, quantities, and times of application, would materially increase the productiveness of the soil; but he also knows that no particular combination can be regarded as the best for all crops, soils, and seasons, and hence his advocacy of experimental stations in various parts of the country. We know, because we have seen, that magnificent Hops have been grown at Wye, and also that young fruit trees and various garden crops there are as satisfactory as such trees and crops could be desired by the most exacting of cultivators; they are a credit alike to the college staff and to Mr. Deadman, the gardener, who carries out instructions so carefully and well, rejoicing in the opportunity.

That chemical manures have played a part in the results attained is beyond dispute, but their influence could not have been exerted to the fullest extent, and perhaps only to a small extent, in the absence of deep culture and systematic surface tillage. We do not know whether Mr. Hall went beyond the manures, as such, in his lecture, and it is rarely safe to rely on scrappy summaries as indicating what was said, and especially what was meant by either the Principal, or others who took part in the discussion. Of one thing, however, we are fully aware, and have the most conclusive evidence on the point, that the mere casting of the best possible "artificial" on the land, or working them in it, cannot, in the absence of proper manipulative work, give a return in any sense proportionate to the cost of the products applied.

We should like to impress on all lecturers the fundamental importance of pointing out methods that will give artificial manures a chance to display their power in increasing the value of crops. At present it seems to be taken for granted by far too many persons who have land to till, not excepting a large proportion of farmers, that it is only necessary to give the stereotyped amounts of nitrogenous, phosphatic, and potassic ingredients, leaving the rest to Nature, to produce maximum crops. It is a complete fallacy, and one of the greatest requirements of the times is to impress the multitude of so-called cultivators with the truth of that vitally important fact.

Long before the admirable little Primer of one of the Wye professors^{*} was published we had over and over again demonstrated the truth of the dictum therein contained, that "thorough tilling of the soil is in itself a valuable means of providing plant food, and is the first and most important method of increasing the fertility of the soil." And, again, the author says:—"Consult the winner of the first prize basket of vegetables at your local show, and you will find his success is not either due to choice seed or liberal manuring alone (although no exhibitor would care to dispense with such valuable aids), but is mainly the outcome of deep cultivation and untiring toil with fork and hoe."

Those sentences ought to be learned "by heart" by every boy in village schools, and have a prominent place, in large type, in every garden shed, farmer's "den," and agricultural college in the kingdom, for they are TRUE. True, but often overlooked by platform speakers, of a different type to Mr. Hall, who appear to live for the exploitation of artificial manures. Given the tillage advised in its integrity, then, by the addition of natural manures, wisely supplemented by artificials of guaranteed quality, wonders may be wrought in the productiveness of the land.

We have records as precise as could reasonably be desired of the value of crops, not a few, grown under thorough tillage and no artificials, that proved far superior to exactly the same kinds grown by their side, to which well balanced proportions of the best artificials had been

^{*} Cousins' "Chemistry of the Garden." Macmillan & Co.

applied; but because these crops had been neglected in tillage—the absence of “toil with fork and hoe,” the manures had been simply wasted on them. Not in one season alone, nor in one kind of soil, but over five consecutive seasons, and in widely differing soils, has this been proved, and the facts cannot be explained away.

It seems to be taken for granted by scientists that private gardeners can make precise and exhaustive manurial experiments over a series of years for the information of the public. Not one in twenty of them can do anything of the kind. The overwhelming majority of them have enough, and more than enough, to do to meet the multifarious demands, and it is a marvel that so many of them meet them so well with the means at disposal. Very few indeed of those men can do what is suggested; but do not let it be supposed that the more intelligent do not make experiments for themselves. Gardeners as units, and for their own home purposes, are the greatest experimentalists in the kingdom; but scientists cannot know this. They would have to live and work in gardens for a few years to find out the facts, and the facts are these—namely, it is just by experiments with manures of various kinds, and in methods of procedure, that our best and most intelligent gardeners have learned, with a near approach to exactitude, the steps to take to produce the desired results, and these are as good, taking the broadest view of their duties, as the best that can be found in any country in the world. It is sadly true that there are so-called gardeners who are lamentably ignorant—men who neither read nor study, but just muddle on, and such do not count in this reference.

No; if experiments with manures are to be conducted with precision, the work must be done by public authorities, such as the Royal Horticultural Society, Agricultural Experimental Stations, Educational Organisations, Botanical Gardens, or on plots set apart by such landed proprietors who may be disposed to find the requisite means; it is not practicable to add to the ordinary routine in the majority of private gardens, though it might, or might not, be feasible at Frogmore. Mr. Owen Thomas might perhaps answer for that; and if not there (on the 50 acres of garden) where are we to look?

Then there are our leading market gardeners—growers of fruit, flowers, and vegetables. Do not they make experiments, though unknown to the world? Many of them do so to a much greater extent than is generally recognised, and act in accordance with the best scientific advice procurable. Like the most successful private gardeners, it is just because they have been experimenting for years that they have succeeded so well in the tremendous competition they have to meet. One of the most devoted students that can perhaps be found as a real cultivator, whose every step taken rests firmly on a scientific foundation, who has studied closely in the laboratory and laboured strenuously in the growth of produce for sale, making, as we are glad to know, remarkable progress during the past few years—only last week this scientific worker expressed the wish that deprecators of farmyard manure and advocates of artificials alone “had to obtain their living by growing fruit, flowers, and vegetables for market; they would then learn that in practice nothing suits plants so well as farmyard manure in conjunction with artificials.” This from a man who has had experience with trainloads of natural and tons of artificial manures, with at one time a predilection in favour of the former—a man who can and does sell produce to the value of more than £500 per acre of land annually is not to be lightly passed over. His remarks had no reference to Mr. Hall's address, for they were in print long before it was delivered.

The object of this gentleman is entirely praiseworthy. He wishes to induce cultivators to discover the best and most economical methods of imparting and maintaining soil fertility; he desires to put them on their guard against costly concoctions which are well known to exist, and which persons are tempted to purchase by insinuating ways. All this is admirable, and if he can set more men a-thinking seriously on the subject, and from thinking resort to action in the form of careful experiments, he will do very much good. Unfortunately, the most ignorant so-called gardeners are hard to reach. Like hundreds of farmers, they are too far gone to read, because they “know better than books and papers.” But it is necessary to discriminate. The tendency of many scientists (not all) is to regard all gardeners as ignorant. This is not so. The better class, or average high-class representatives of the craft, are, as the Rev. Prof. G. Henslow said in the last published part of the Journal of the Royal Horticultural Society, “more or less scientific physiologists, though

perhaps without knowing it. For it is just because florists and horticulturists do succeed so wonderfully well in growing plants that they have discovered for themselves what their plants require,” though, as the learned professor suggests, “without exactly knowing the why and the wherefore in each case.” This is quite true.

These men know what particular manures best suit the particular purposes for which they are applied, and they will continue to use them, whether in the natural or artificial form, and whether the last named are proprietary mixtures or not. They know perfectly well that when the land is crammed with rich farmyard manure that lime, and the mineral forms of artificials, especially phosphatic, give the best results; but they also know that when land is practically destitute of humus, good farmyard, or rich hotbed, manure is the most trustworthy kind to use as a foundation for whatever artificials may be given in addition. This Mr. Hall knows very well, for, according to a note in the “Gardeners' Chronicle,” he conceded the point, in reply to Mr. A. Dean, by describing “the sandy soils of Surrey as peculiarly unsuitable for experiments with phosphates.” If in Surrey, it must be so with similar soils elsewhere, where farmyard manure has the best effect. Mr. Dean could tell of some of the grandest crops of Grapes that the country produces in the sandy soils of Surrey, and many other crops besides Grapes, largely, but not in all cases, entirely by the aid of natural manures, because a supplement of steamed bone flour has a beneficial effect.

We also see it stated that Dr. Masters described something that had been said as “quackery.” As Mr. Dean is no quack, the remark must have applied to Mr. C. Berry's practice of mixing “all sorts of manures, compounds and others together, and applying them to most crops.” That certainly does savour of the big bottle cure—with a little of everything in it to catch all diseases; but if for “all sorts” we substitute some sorts, and these the right sorts, for incorporating in manure and compost heaps shortly before applying in the spring, we venture to say the practice is the reverse of quackery; on the contrary, it has been found the best of all methods of sustaining the fertility of sandy soil by a continental horticulturist of high repute over a period of thirty years or more, and the practice had the sanction of scientific State authorities. Similar practice has also long since been found to answer well by gardeners both in England and Scotland, though little has been said about it in the Press.

It is not entirely safe for either scientists or practicalists to be too dogmatically assertive as to the best methods of manuring the soil. The advocacy of preparing special manures for every crop and kind of plant, regardless of the character of the soil, is not much less suggestive of quackery than Mr. Berry's “all sorts for most.” Those men are the wiser who discriminate, and all should search for the truth.]

BULBS AND THEIR CULTURE.

(Continued from page 352.)

THERE are many ways in which bulbs may be employed in the flower garden, in addition to the general practice of devoting beds entirely to them. In some instances a long succession of flowers is expected from the time the Snowdrops and Crocuses appear till the middle of June; when such is the case good results are obtained by associating other spring-flowering plants with them. Let me give a few examples. A charming combination I have often employed is to plant yellow Tulips a foot or 15 inches apart, and then cover the whole surface of the bed with one of the many good forms of bedding Myosotis. The latter begins to flower while the Tulips are in full beauty, and continues well into June; and as the flower spikes lengthen and the Myosotis grows into a mass the Tulip leaves are almost hidden, so that we obtain just as good a display of Forget-me-not as when the bed is devoted entirely to it, and in addition we have the early and brilliant display of Tulips, which in its late stage contrasts well with the rising mass of blue beneath. Red or white Daisies again make a capital groundwork for either Tulips, Hyacinths, or Narcissi.

Silene pendula compacta also forms a splendid setting for Narcissus poeticus, and as both flower simultaneously they should be associated in beds which are required in full beauty about the end of May. Masses of Scilla sibirica are wonderfully effective about the time Crocuses are fading; and if yellow Tulips are planted thinly among the Scillas they make a good display after the latter flowers have faded. With a few years' close study of these matters the flower gardener usually finds that many novel and beautiful combinations may be made by working on the lines above suggested.

When bulbs are planted in flower beds it is of course necessary to take them up each year to make room for summer bedding plants; for this reason many are led to plant only a couple of inches deep, but I am convinced the practice is not a good one, as all bulbous plants produce better spikes of flowers when the young shoots have to force their way through 4 or 5 inches of soil and plunging material before

they reach the light. While this is going on the roots are rapidly extending, gathering the force and substance necessary for the full development of the flower. For these reasons I like to plant fully 6 inches deep. It is important, too, that the bulbs in a particular bed, clump, or line, be planted at a uniform depth, or the growth when it appears above the soil will be "patchy," and some of the flower spikes begin to unfold a week or two in advance of others in the same bed.

To secure satisfactory results in this respect it is an easy matter to drive a nail into the dibber 6 inches from its point; the planter then has only to make sure of inserting his dibber quite up to the nail. A small matter this, but, like so many other trifling details, cannot be neglected with impunity. To secure a really good show Tulips ought not to be planted more than 6 or 7 inches apart, and Hyacinths 9 or 10. If the latter are planted too closely, the full beauty of their spikes is not seen to advantage; but to my mind Hyacinths are the most effective when planted a foot apart with Daisies, Aubrietia, or similar dwarf plants employed as a groundwork between.

In mixed borders we cannot well dispense with spring flowering bulbs, as they supply brilliant bits of colour before the majority of herbaceous plants flower. Patches or lines of Crocus and Scillas are well adapted for planting near the edges. I do not like to see the ordinary straight line of these in a mixed border; to my mind a much better effect is secured by planting a patch of about two dozen Crocus, then taking from it a thin irregular line to the next patch, some 4 or 5 feet distant, and interspersing patches of Scilla between.

I adopted that plan in forming a border a few years ago, and the result was greatly admired. Daffodils, Nareissi, Jonquils, Tulips, and Anemones are each suitable for planting in good bold clumps in other parts of a mixed border. The stations should be deeply dug, the bulbs planted 7 or 8 inches in depth, and be left undisturbed for four or five years; then it is necessary to lift them, weed out the small bulbs, and replant in a fresh site. With good culture in the matter of an annual surfacing of manure, many bulbous plants succeed far better when left undisturbed in the way above indicated than when taken up each year. During the summer time annuals can be planted above them, but the stronger growing varieties ought not to be employed.

The practice of planting bulbs in grass has during recent years been so much written about that I will not go into that phase of the subject here; but there is a method of securing still better results which is often overlooked, this I should like to point out. At the present season alterations of various descriptions are in progress in many gardens; in some it perhaps takes the form of planting shrubberies near the sides of walks, with a considerable space in front to be grassed down, in others additional spaces are added to the pleasure grounds. In each case the ground should be thoroughly prepared by trenching; then after the trees and shrubs are planted a splendid opportunity occurs for planting bulbs between before the turf is laid or grass sown. When such a good start is given all bulbous plants grow infinitely better, and continue satisfactory far longer than when planted in established turf, under which the soil is often threaded with tree roots.

Next week I hope to conclude this subject with a few remarks on bulbs during their sojourn in forcing houses or pits.—H. D.

— ON BEHALF OF THE SPARROWS.—Generally the homely sparrow is looked upon as a mischievous rascal, incapable of perpetrating any good in the garden. Many of the charges brought against him can doubtless be proved, but occasionally one comes across instances where even the sparrow does his share of good, and such a case came recently under my notice. Lucky is the gardener or cottager who this season has not had reason to deplore the caterpillar plague, and in the south there are not many in that enviable position. It is in regard to the caterpillar pest that a word is put forth on behalf of the sparrows. The other day when waiting for a train at a station where an extensive goods traffic is done, my attention was drawn to the healthy appearance of the Cabbages and Winter Greens in the surrounding gardens which bordered on the goods yard. There was scarcely a trace of caterpillar destruction, and this, in a district where everyone was complaining, led to inquiries as to the cause. An obliging railway official offered an explanation by pointing to a large flock of sparrows busily engaged in picking bits in the yard. He had watched them, so he informed me, just before the caterpillars appeared everywhere else in swarms, feeding greedily among the green crops in the surrounding gardens. At first he thought they were devouring the leaves, but examination of the plants altered his opinion. Later on he arrived at a solution of what at the time appeared to him a mystery, for when everybody else in the district was complaining of the caterpillar plague the greens in the gardens close to the station were comparatively free. The inference can readily be drawn. At the time when suspicion fell on the sparrows that they were feeding on the greens, they were doubtless satisfying their rapacious appetites on the eggs and newly hatched caterpillars. At the present moment there are men in that particular village who have a good word to say for the much-abused sparrow.—H.



CHRYSANTHEMUM LEAF RUST.

AT last (November 1st, 1898) I have detected on a specimen forwarded to me by the Editor the teleuto, or winter spores of the fungus which causes the disease known as "rust" on the leaves of Chrysanthemum sinense vars. Hitherto I had only distinctly found uredo or summer spores, and acted strictly up to what were seen. The teleuto spores are not easy to find on account of there being very few in the specimens; yet they may be discovered by persevering research on dead or dying leaves infested with the "rust," a small cluster being shown in fig. 70 at A, with the matrix of felted mycelium (a) from which they spring.

As the fungus first appeared in 1897 it was provisionally named *Uredo chrysanthemi*, and as it was stated in a contemporary to be probably *Puccinia hieraci*, also in an American paper likely to be found *P. tanacetii*, I took measures to work out the life history of these species, and to culturally obtain them on Chrysanthemum sinense vars. Neither in pro-mycelium spores—the first growth reproductive bodies from a teleuto spore—nor in uredo or summer spore condition could they be induced to invade the Chrysanthemum sinense vars. The pro-mycelium and uredo spores of *Puccinia hieraci* vegetated on and invaded the leaves of the common Hardhead (*Centaurea nigra*), and its life history I have sent to the Editor for reference.

The teleuto spore (fig. 70, B) of *Puccinia tanacetii* in the spring, under favourable atmospheric conditions, pushes pro-mycelium from one or both cells at b, and as these pro-mycelial threads increase in length the protoplasm pours into the tubes, as shown in the higher magnified figure (C). A series of septa then appear (indicated at c), which enclose the protoplasm in three cells at the end of the respective tubes, and from each of these cells springs a pale yellowish pro-mycelium spore (d), which speedily falls from the slender support and floats readily in dry air. In the presence of moisture (D) it readily pushes a germinal tube (e). If on a Tansy (*Tanacetum vulgare*) leaf the germinal tube breaks down the epidermis by emitting a fluid, and bores its way into the tissue; or it may force through a stoma or breathing pore (so-called), then by growth of mycelium give rise to a pustule containing uredo or summer spores, and these, breaking through the epidermis, be broadcasted by wind, and on suitable hosts—which, so far as I have noticed, are those of the genera comprised in the sub-tribe Artemisineæ of the Order Compositæ—reproduce the uredo stage again, and finally the winter condition—teleuto spores.

This—the life history of *Puccinia tanacetii*—accords with that of *Puccinia hieraci* and many other species that have only two kinds of spores—namely, uredo or summer, and teleuto or winter. The two species, *P. hieraci* and *P. tanacetii*, cannot be distinguished from each other by morphology (Gr. *morphe*, form; *logos*, description); but this can only be determined by biology (Gr. *bios*, life; *logos*, a discourse). In the "rust" of Wheat there are some eight species known under that term, and not morphologically distinguishable from *Puccinia graminis*, hence history alone affords any satisfactory evidence of identification in species of common origin. The type form, *Puccinia graminis*, has three kinds of spores—*æcidia*, produced on *Berberis vulgaris*; uredo, borne on Wheat; and teleuto, also following on it. On the other hand, *Puccinia glumarum*—the common rust of Wheat, and almost inseparable from the plant in any part of the world—dispenses with the *æcidia* stage, and its pro-mycelium spores, or even the germinal tubes from the teleuto spores, vegetates on the Wheat plant and enters its tissues by pushing in the tubes, which give rise to pustules or sori containing the uredo spores.

There resemblance of *Puccinia hieraci* to Chrysanthemum rust fungus in uredo (summer) and teleuto (winter) spore condition, and *P. tanacetii* being exactly like it in both respects, implies nothing definite as to identity, for, neither *P. hieraci* nor *P. tanacetii* have taken to Chrysanthemum sinense vars. That is the great point. Neither of the species—*P. hieraci* and *P. tanacetii*—appear on our native species of Chrysanthemum, *C. Leucanthemum* and *C. segetum*, nor is any other species of *Puccinia* found on them in uredo or teleuto form, but the *æcidia* stage of a *Puccinia* producing uredo and teleuto spores on a *Carex* may occasionally be found on the Ox-eye Daisy (*C. Lencanthemum*). The Chrysanthemum belongs to the sub-tribe Chrysanthemineæ of the order Compositæ, and affinity goes much farther than anything else in liability to parasitic affections of the same kind.

The rust fungus, *Puccinia chrysanthemi*, first, strictly adhering to evidence, appeared on the American raised variety of Chrysanthemum niveum, some say three years ago; but it was not recognised

as doing material injury until August, 1897, and then simultaneously in the United States, Isle of Man, various parts of Great Britain, and in Italy. Of these infections I have specimens of the first that came to hand on the variety niveum, and also of all, including the Isle of Wight, primary attacks, excepting that of the United States, whence, I believe, the parasite was introduced into this country in the tissues of new varieties of Chrysanthemums as mycoplasma, *E*.

This differs from hyphæ or mycelial threads in not having a definite cell-wall, but an Amœba-like form, and capable of living in the tissues of the host plant, as shown in *F* at *f*. In this form the fungus may remain a considerable time, even in the embryo of the seed, or in a leaf, no sori or pustules appearing until the growth of the host plant becomes sufficiently developed, and the climatic circumstances are favourable for the purposes of effective reproduction. Thus, in the tissue of a Chrysanthemum leaf, rust fungus may be transported to any part of the world.

When the host plant becomes active the mycoplasma will also develop, giving an unusual greenness to the leaf of the Chrysanthemum, and, forming masses of mycelium in the tissues at certain points, give rise to sori or pustules, containing the uredo or summer spores, which continue the increase of the parasite during the growing season. The fungus also prepares for emergencies by producing teleuto or winter spores, practically drought, wet, and frost-proof. Teleuto spores do not vegetate at once, but remain dormant until the following spring, then (in the case of *Puccinia tanacetii*, and no doubt also of *P. chrysanthemi*) produce the pro-mycelium growths bearing sporidia (spore-like bodies) on short sterigmata (stalks), *C* at *d*.

Such by analysis appears the history of the Chrysanthemum leaf-rust fungus. It lives its whole life on the Chrysanthemum sinense vars., solely and absolutely. This fact I consider conclusive of the rust fungus being entirely new to Chrysanthemums in Europe, of its introduction on new varieties from the United States, and of its spread from trade establishments to certain private and public Chrysanthemum growing places in Great Britain and the continent of Europe.

The rust fungus certainly cannot be of any British or Continental form, otherwise all Chrysanthemums would be laid under contribution in all places, instead of only particular ones, and these singularly where it had not appeared until new varieties or fresh stock containing it had been introduced within the last three years. Such are the simple facts—the germs have come from somewhere, and where they exist the collection is infected more or less, and in 1898 it has been worse than it was in 1897 in extent and malignity.

The means to adopt in order to get rid of the disease suggest themselves. 1, Destroy all infested plants entirely, roots as well as tops, by fire. This, if done before the pustules have become ruptured, will prevent any further trouble.

2, The destruction of affected plants wholly may mean the annihilation of certain very desirable or indispensable varieties. The alternative is to remove and burn every infested leaf as soon as the pustules of the fungus are recognisable, and always before the uredo spores become mature or have broken through the epidermis.

3, No substance whatever will destroy the fungus in the tissue of the host without killing the latter; still, methylated spirit appears to sink into the pustules and destroy the uredo spores. This can easily be applied by means of a small brush. Then the spores do not survive subjection to water heated to 135° to 145° for five minutes. Of course this cannot be practised on Chrysanthemum plants, but may be useful in cleansing houses where the disease has been prevalent, scalding every part so as to destroy any uredo or teleuto spores.

For preventing attacks from without Bordeaux mixture is, all points considered, the best liquid to use. The preparations in powder are, however, equally efficacious. All fungicides, nevertheless, are useless against the mycoplasma, and the mycelial hyphæ in the tissues of the plant, therefore the infested plant must be prevented from producing spores by destroying these before attaining ripeness in the pustules. Where there are no germs there cannot be any continuation of the Chrysanthemum leaf rust.—G. ABBEY.

OUTDOOR CHRYSANTHEMUMS.

I SEND a few Chrysanthemum blooms for your inspection. They were all grown outside in an exposed garden in the south end of Liverpool and close to the River Mersey, and illustrate the mildness of the season. The varieties enclosed are Chevalier Domage, Précocié, George Sands, Margot, Madame Darier, Madame Lacroix, Mons. R. Bahuant, Mrs. Forsyth, Florence Percy, President, Princess of Wales, Sœur Melanie, Vivian and M. rel, and W. Holmes, also Source d'Or. The garden has been quite aglow with "Mums," of which we have 130 plants in twenty-six varieties.—AN OLD SUBSCRIBER.

[We are obliged by the bouquet of variously coloured flowers, all of good quality. In the south outdoor Chrysanthemums are still abundant, for we have had little frost and no snow. The season everywhere seems to have been most favourable for these valuable autumn flowers.]

NATIONAL CHRYSANTHEMUM SOCIETY.

ON Monday evening last the Executive Committee of this Society held a meeting at Carr's Restaurant, Strand, when Mr. T. W. Sanders occupied the chair. After the usual preliminaries of reading the minutes of the previous meeting and various matters arising out of the correspondence had been disposed of, the Foreign Secretary, Mr. Harman Payne, read a letter which had been received from Mr. Briscoe Ironside giving some interesting details concerning the progress of Chrysanthemum culture in Italy. There was also a communication from the Secretary of the French N.C.S. thanking the Committee for the cordial reception accorded to their representative to the recent Aquarium Show, and expressing a hope that a deputation of the English Society might visit the Conference at Lyons next year.

A report was read from the Sites sub-Committee setting forth the proposed arrangements with the Aquarium Company for holding next year's series of exhibitions there, and the same was agreed to.

It was announced that the prize money awarded at the November Show amounted to £330 19s. 6d., and that one gold, seven silver-gilt, ten silver, and ten bronze medals had been awarded. For miscellaneous

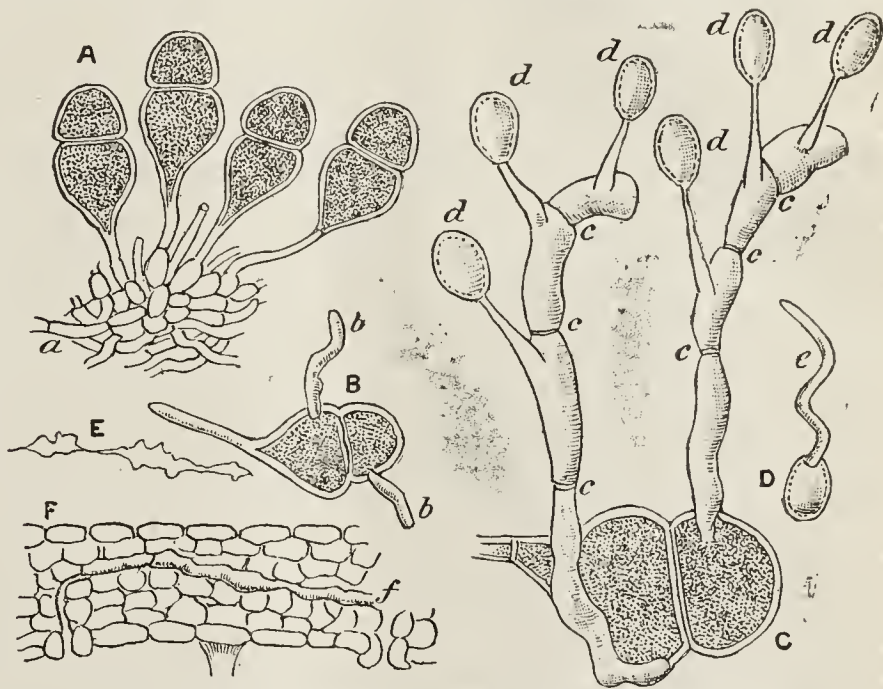


FIG. 70.—PUCCINIA CHRYSANTHEMI AND P. TANACETII.

References.—A, teleuto spores of *Puccinia Chrysanthemi*; a, mycelial hyphæ. B, teleuto spore of *Puccinia tanacetii*; b, pro-mycelial tubes. C, teleuto spore of *Puccinia tanacetii* producing reproductive growths; c, septa or joints; d, sporidia or pro-mycelium spores. D, sporidium germinating; e, germinal tube. E, mycoplasma from tissue of young Chrysanthemum leaf. F, section of portion of Chrysanthemum leaf more advanced, showing f, mycoplasma of fungus in tissue. (A, B, and E, enlarged 260, C and D 520, and F 130 diameters).

groups, the Arbitration Committee had awarded the following:—Large gold medal to Messrs. Cannell and H. J. Jones; small gold to Messrs. Williams & Son, and Cutbush & Son; silver-gilt to Messrs. J. Laing, Godfrey and Owen; large silver to Messrs. Reid and Russell; small silver to Messrs. T. S. Ware.

A rough statement of assets and liabilities was then submitted, and considered satisfactory. It was resolved that the Floral Committee should fix the dates of its meetings for 1899, and that that Committee be invited to dine together at the conclusion of the meetings, as in former years. Several offers of special prizes were considered, and the meeting closed with the election of sixteen new members.

THE INTEREST IN CHRYSANTHEMUMS.

IF one stops but for a moment to consider how widespread is the cult of the Chrysanthemum one cannot but wonder at the enormous progress that has been made by this flower within so few years. The flower itself is, of course, ancient enough with the Celestials, and when we speak of the last few years we refer, of course, to the growth of interest in Europe and America. The horticultural papers from abroad devote many columns at this season of the year to Chrysanthemum news. There are societies of importance in nearly all the European countries, and in England alone the National Society is in active affiliation with as many as 141 subsidiary exhibitions. It also co-operates with branches in New Zealand, Tasmania, and Timaru, at which last place the exhibition season is May. Fancy, Chrysanthemums in May! France has a journal devoted entirely to the Chrysanthemum, and Italy is not behind in this respect, the first number of its publication having just appeared. In the face of all this expansion what can be said of those who annually tell us that the Chrysanthemum fever is in its last stage? And, by-the-by, our French brothers have coined a useful if cumbersome adjective which can be rendered in English "Chrysanthemical." How do our readers fancy "Chrysanthemical Congress?"—"American Gardening.")

SHOWS IN 1899.

WE are informed that the dates have been fixed for holding the next year's Chrysanthemum shows at Birmingham, Winchester, and Hull as follows:—Birmingham, 7th, 8th, and 9th; Winchester on 14th and 15th; Hull on the 15th and 16th of November. Exhibitors cannot complain of "short notice," and if they succeed in making better shows than were provided this year, they will have good reason to be proud of the achievement.

CHRYSANTHEMUM SHOWS.

Now that the autumn campaign may be regarded as over, we desire to thank our valued coadjutors in various part of the country who have aided in the production of reports. During the extraordinary pressure, especially on the day of making-up our pages, many newspapers have arrived, no doubt containing reports, but we have to confess that such late arrivals could only in few cases be opened. "Cuttings" from papers, also, which arrived at the last moment, embodying lengthy reports of shows held several days previously, could not possibly be utilised, though we thank our friends all the same for their good intentions.

OVER AT LAST—EAVES-DROPPINGS.

FREE again! Free from the embrace of the autumn queen. No, "embrace" is not the word; it has been a case of being overwhelmed with, or almost buried in, Chrysanthemums, and it is a relief now the struggle in dealing with more than half a hundred shows is over. Brilliant but brief has been the battle of flowers—the contest between the eastern races, and the Japs have won again. Why the weakness—the degeneracy of their rivals? The weather of course! How useful, how handy it is! So hot and dry it roasted them, then so wet it flooded them, then so cold it chilled them and made them fluff up their feathers. How very perverse! Hot when it ought to be cool, cold when it ought to be warm, dry when it ought to be wet, and wet when it ought to be dry. What a fickle jade it is, and how cruelly unfair—to be so bad to those who lose, and good to those who win.

Then we have to hear how stupid the judges are in giving prizes to the worst stands and missing the best, and that it is a pity they had not to grow the blooms that lost, as there could not have been much difficulty in growing some that won. What is the use of buying the best sorts and growing them in the best way if somebody else is put before you with seventeen points behind? "Enter a protest," you say. What's the use? Committees are no good, except at figures, and turning you out before you have done staging. They know nothing about Mums, and if you do put in a protest, what do they do? I believe they just ask the judges if they were wrong, and of course these great men say, "No, there never was such sound, careful judging before!"

Did you ever hear a judge say he had made a mistake? I never did. I have seen them look a bit queer when cornered and standing on what they call their "dignity," but confess—never. That is not in their line, and some of them are as shifty as a waggonload of monkeys. I heard that in a lecture, and believe it is true. You just say to one (I mean a judge), if you can catch him, "Oh, Mr. Lordy, do you mind just telling me why *he* was put first?" and ten to one if he doesn't say, "Well, you know, *I* wanted to come *here*" (them was mine) "but the other two went against me by half a point." Then you hunt up another, but what's the use? If you find him it is the same old tale. It seems to me to always be the "other two" that did the mischief; but catch all three together if you can. It's as easy to win as do that.

Some of these gentry are wonderful. To see them march about is a treat. The whole show might belong to them, and they the chief things in it—nothing else much worth looking at. Just speak to one of them, with his rings and medals and bangles, and you will find out. It will be, "Judging, did you say? Ow, yes; its dan (done)—*finished*, young man;" then up goes his head as if he would bump the ceiling, though he is only a sort of overgrown "Pom" himself. You don't forget the force of that "*finished*," though; it reminds me of smashing the Mad-I.

Well, there's more than one or two of that sort at shows, I can tell you, particularly about the time when the judges and their friends are passing the butter at luncheon. It is about that time, or soon after, that protests are "lodged," and safely enough, too, for you often hear no more about them than "not entertained." This is not treating them like the judges, anyhow. I once asked one of these grandees what was said about a certain protest, and what do you think I got in reply? Just this, "Couldn't possibly tell you, as the case was discussed in camera." Oh, thinks I, that's it, is it; instead of attending to business after lunch they had been busy having their likenesses took! There is a good deal of this sort of thing going on at shows, and the camera man sells the pictures, I suppose. Sometimes they put the judges in schedules, but I would rather see a

good bloom any day, such as my Pankouk. It *was* a bloom was that, not one like it in the show, but the judges couldn't see it with their glasses on, while it was clear enough to the naked eye.

"Write to the Press," did you say? Not me. Why, they are all in it. I mean the papers and the judges. It seems to me a regular mix up. Look at the reports. What are they? Stick a first prize card up, and the men with the books go for it like a pack of hungry wolves. Then down goes the "grands" and the "splendids." That is because the cards are on. They never see good blooms without, and that is why a lot of the best are not so much as mentioned. They just go by the cards, and then go with the judges to luncheon. What do *you* think?

I am about tired of the goings on. I spent twenty-nine and six out of my own pocket on new sorts, went into nine classes, and took two mean "thirds." Why, it didn't pay my fare, saying nothing about extrys. I tell you shows will be no good without different judges and committees. They should all be growers, *I* say; and I am getting sick of the whole concern.

Well, so am I dear reader; but if you have to go from show to show all over the country you are bound to hear such things as I have set down, and many more of the same amusing character. All that can be said for them is this: They come as a relief to the stern and strenuous duty of taking down names in a crowd by—A REPORTER.

OUTDOOR CHRYSANTHEMUMS.

VISITORS to the Chrysanthemum nurseries and other places where the flower is grown in quantity cannot fail to have noticed the freedom and luxuriance of many of the outdoor varieties this season. At Earlswood Mr. W. Wells has a large field full of these, and at Woking Mr. Shoesmith had a pretty little collection of very useful sorts. Elsewhere I noticed many a charming clump of outdoor Chrysanthemums blooming in great profusion, and reminding me of its value other than as a mere prizewinner.

Never has my house been gayer than this year owing to the kindness of a friend in sending me right up to the middle of the month an occasional box of these outdoor varieties, and especially charming for filling one's vases are Harvest Home; Orange Child, the old crimson Roi des Précoees; Mad. Eulalie Morel, salmon and gold; George Menier, rosy amaranth; Mad. la Comtesse Foucher de Careil, golden bronze; Ivy Stark, golden bronze; M. Dupuis, golden bronze; Mdlle. Marie Masse, pink; Albert Gorly, reddish crimson, golden centre; and Ambroise Thomas, crimson, all of which are Japanese varieties.

In addition to these Crimson Pride is very useful; M. Leveane fils, chestnut crimson; Mad. Aug. Nonin, pale lilac mauve; Mytchett White, Market White, Mitchett Yellow, are all good for the purpose. Others to which special attention should be called are Mad. de Sabatier, crimson and gold; Gladys Rolt, pure white; Vesuvius, dull crimson red, reverse gold; Martinmas, lilac mauve; Crimson Source d'Or, and Mad. Gajac, pale lilac mauve. So valuable do I consider these that I shall certainly plant the best part of them in my new garden for next autumn's supply of cut flowers.—P.

NEW SPORTS OF CHRYSANTHEMUMS.

THERE seems to be a large number of these about this season, and on Monday I heard of a pure golden yellow one from Mrs. C. Harman Payne which will probably rival the white one, as I am told there is no trace of coarseness about it. Crimson Marie Massé is a very free flowering form of decorative value from the well-known pink Mdlle. Marie Masse. Then we have Miss Mary Leschelles, a fine white sport from Reine d'Angleterre, which is by no means a flower to be despised, notwithstanding the many good whites already in cultivation. Golden Queen of the Earlies is rather a pale yellow form of a well-known October variety.

Mrs. J. W. Barks is a golden bronzy sport from Edith Tabor, and quite as fine in form as its parent. Mabel Kerslake is a crimson and golden sport from Pride of Madford, and another from the same source is called Pride of Stokell. I have not seen them together, but am inclined to think they are identical. Then we have a deep golden yellow sport, at present I believe unnamed, from the famous show variety Edwin Molyneux. This, although not so effective as its parent, should prove a useful addition.

Archie Ray is a pale primrose form of Mdlle. M. A. de Galbert, and a very beautiful flower, of which some really fine blooms were shown at the November exhibition of the N.C.S. Miss Rose Polley, a crimson and golden variety from Dorothy Seward; Mrs. W. Mease and G. J. Warren, the two yellow Carnot sports, need no praise; nor does Lady Hanham, the Vivian Morel sport, which was seen well last season. Mrs. Philip Mann is a pale golden yellow sport from Chas. Davis, flushed pale crimson.

From the new Mary Molyneux there is a sport, which was recently exhibited, called Mr. Adams; it is a rather pale golden buff or bronze. J. E. Clayton is a yellow Eva Knowles. Mrs. Alfred Kimber, a very

fine rich pale canary yellow form of Mrs. Dr. Ward, and was recently commended by the N.C.S. Lizzie Adcock, the palest yellow sport from the good old Source d'Or, which as a decorative Japanese has few rivals.—C. H. P.

WIRE-PETALLED CHRYSANTHEMUMS.

BEAUTIFUL as are these singularly interesting flowers, and charming as they are for vase and bouquet purposes, there is very little prospect of their being made into show flowers. But those who love Chrysanthemums for their intrinsic beauty most, and least for mere size or prizewinning capacity, will find in the singularly pretty Mrs. Filkins, bright yellow, petals fine, and pointed with a branching or stag's-horn formation; Bouquetterre, fine fluted petals, erect, pale pink flushed golden bronze; Sit-ju-jet-ui (I syllabilise this odd Japanese name as it should be pronounced), reddish lilac, white ditto, very charming; Mrs. Harvey, petals erect, densely set, white flushed pink, wonderfully free; and Alice Carter, chestnut red, tipped yellow, as a very beautiful selection. I found these in Messrs. Cannell & Co.'s interesting collection at the Drill Hall on the 22nd.—A. D.

[We should like to hear "A. D." pronounce "Sit-ju-jet-ui" in his sonorous way, and then give its English equivalent.]

TOO-MUCH-ALIKE FLOWERS.

NOTHING helps to kill an absurdity so much as converting it into ridicule. Your correspondent of last week, "W. J. G.," seeks to do this by showing the unfortunate position in which the N.C.S. Classification Committee has placed itself in respect of linking together C. H. Curtis and Major Bonnaillon. There is not a grower of incurves but declares them to be quite distinct. But the oddest thing is that whilst, as quoted by "W. J. G.," the N.C.S. Year Book describes C. H. Curtis as rich golden yellow, and Major Bonnaillon as pale yellow, yet in the very fine stand of blooms shown at the Drill Hall on Tuesday last by Mr. Flight, including two blooms of each of these varieties, C. H. Curtis was "pale yellow" and Major Bonnaillon "rich golden yellow." Apart from that distinction in colour the form of flower, breadth, and character of petal are so diverse that classing them as varieties too much alike is the veriest absurdity. In growth and foliage they differ also.—OBSERVER.

I NOTE the remarks on this subject by "A. D.," page 376, who seems to suppose that the "trade" has supplied certain varieties wrongly named. Persons who are not, by long practical experience, acquainted with the niceties in Chrysanthemum culture, may easily fall into such an error, for an error it is in the present reference. The formation of the flower buds at various stages and periods has such an effect upon both colour and shape of the blooms, that a man with little experience in technical points may easily be misled.

There is not the slightest difficulty in distinguishing blooms of Mrs. Heale from Princess of Wales when both are properly represented, nor need there be any trouble in detecting the differences between blooms of C. H. Curtis and those of Major Bonnaillon.

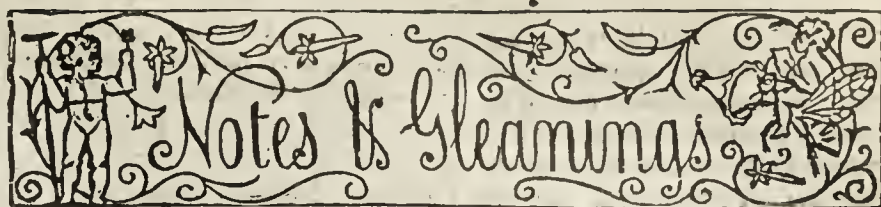
Unfortunately some cultivators are not nearly particular enough in observing the conditions necessary to enable them to stage both sorts without risk of disqualification. Perfectly dissimilar blooms shown as Princess of Wales and Mrs. Heale have been cut from the same plant, and a similar result is possible with the other two varieties quoted. If all growers were as careful to stage them distinct as was Mr. Lees in the stand alluded to, there would not be the slightest necessity to bracket any two sorts as too much alike. It is in the interest of persons who do not know, or do not take sufficient notice of the distinctive character of the blooms they stage, that such rules are necessary.

In the case of C. H. Curtis and Major Bonnaillon in is a well-known fact that early blooms of the former so much resemble those of the latter in colour that it is difficult to distinguish between them. How would "A. D." act in a case of that kind? Is it not better to have such a rule as that lately drawn up by the N.C.S. and relieve exhibitors from the pain of disqualification in such cases?

The point which seems to me to be the most important is this:—How could the executive of any affiliated society expect their members, especially in a remote district, to know of the existence of such a rule, published only in the prize schedule of the N.C.S., and not even hinted at in their own schedule? Exhibitors think they are hardly dealt with by judges disqualifying them for not observing the latest rule made by the N.C.S., which, according to "A. D.," is not clear even to some of those who made it.

All affiliated societies should print in their schedule of prizes next season the particular clause in question, then exhibitors will have no reason for complaint if judges disqualified them in the discharge of their duty.—SADOC.

[This is a good and natural suggestion under the circumstances. Whether the rule is clear or not, we know of judges who declined to enforce it at some provincial shows, on the reasonable assumption that many exhibitors did not know of its existence.]



EVENTS OF THE WEEK.—With the almost absolute cessation of Chrysanthemum shows horticulturists enter upon a season of comparative rest. The last show of the autumn queen is that of the N.C.S., which opens on Tuesday next, December 5th, and will, as usual, continue over the two following days.

— WEATHER IN LONDON.—The weather in the metropolis during the past seven days has been extremely changeable. From the time of going to press on Wednesday, November 23rd, until Saturday night, we had heavy cold rains with fine intervals. On Sunday, though dull, it was dry, this condition prevailing until Monday afternoon, when rain recommenced, and continued all the evening. A light drizzle fell on Tuesday morning, but it became fine later, with frost at night. At the time of going to press on Wednesday it was mild, but rather dull.

— WEATHER IN THE NORTH.—The long course of wet and foggy weather was suddenly broken on the night of the 21st by a frost of 11°. A snowfall of 6 inches took place on the following night, but a thaw following soon cleared the low grounds, the hills around being still covered. The 27th and 28th, although cold, were fine seasonable days with frost of 4° and 5°. On Tuesday morning 14° of frost were registered, and the ground was white with dense rime.—B. D., *S. Perthshire*.

— LATE PEAS.—The prolonged drought and the dry and overheated state of the soil have told very generally against the acquisition of late Peas this season. In an exhibit of vegetables at the late Frome Chrysanthemum Show very general surprise was manifested over a fine dish of Autoerat staged by Mr. Richard Morse of Babbington, Bath. They were as fresh in the pod as summer Peas, and as full of large seeds; indeed, it was almost difficult to believe they were gathered in the middle of November in such an unoward season. They were sown at the end of June, but I did not learn whether they were benefited by a bountiful water supply. In any case, they reflected more than ordinary credit on the exhibitor, and quite a prominent feeling of envy was raised in the minds of many visitors.—W. S.

— "RECORD" PRIZES FOR GRAPES.—We understand that, in commemoration of the twenty-fifth summer Show of the Shropshire Horticultural Society, to be held at Shrewsbury on August 23rd and 24th, a special class for Grapes will be provided, for which cash prizes, value, £100, will be offered. We are not in possession of the exact conditions, but think the stipulations will be for a collection of Grapes, in six distinct varieties, two bunches of each variety, the bunches to be staged on boards in a space 7 feet by 4 feet 6 inches, and that small plants and loose foliage will be allowed for decoration. The prizes, we hear, will be as follows:—

First Prize	...	...	£50
Second Prize	...	...	£25
Third Prize	...	...	£20
Fourth Prize	...	...	£15
Fifth Prize	...	...	£10

The class, we believe, will be open to cultivators in all parts of the world. We have no recollection of £100 being offered in one class for Grapes before, and splendid competition may be anticipated.

— DISAPPOINTMENT WITH FERNS.—Frequently is the advice of gardeners required to improve the unsatisfactory condition of the ever-popular Maidenhair Fern. Much of this would be unnecessary if growers would bear in mind that the plants require a period of partial rest during the winter months, instead of subjecting them to growing treatment the whole year round. It is unreasonable to expect *Adiantums* to keep up a continual strong growth throughout the whole season, yet frequently the plants know no change in the way of temperature and water supply. And the result—sour, water-logged soil, fronds small and half matured, and the general appearance of the plants sickly and unhealthy. If Maidenhairs are allowed a somewhat cooler temperature in the winter than that of the stove, and kept on the dry rather than the wet side, they enjoy the period of rest, and after being potted early the following spring, root and frond action commence simultaneously, and the grower is profited by the possession of specimens suitable for all purposes.—G.

— **DAHLIAS IN NOVEMBER.**—Until the 14th November Dahlias could be gathered in quantity; indeed, up to the date named their autumnal display was much finer than during any part of the summer. Six degrees of frost, however, was sufficient for these and all other similarly tender plants remaining in outdoor borders. It has been a record year in many respects, and none the less in the freedom from frost and the slight rainfall. Despite the latter failing Dahlias made surprisingly large and healthy tubers, even in comparatively poor soil. This freedom from frost, though general, has not been universal, records of frost having been given from some districts some weeks ago. It must be some years since such an immunity was experienced, but it is only where daily records of temperature are kept that such can be determined.—**A. WILTSHIRE GARDENER.**

— **SPRING CABBAGE.**—I have heard complaints from more than one gardener of the scarcity of Cabbages for planting to give a supply in the spring, and, as is common among the fraternity, in some districts solicitous inquiries are being made with a view to obtaining spare plants for filling vacancies. Unfortunately superfluous stock is generally the exception rather than the rule, and many growers for sale are regretting that their supply is not larger. In view of the fact that a scarcity of Winter Greens is anticipated, spring Cabbage will be more valuable, hence the anxiety of many gardeners in their non-success in raising and inability to get plants. No doubt the drought and allied causes are mainly responsible for the scarcity of Cabbage plants, and as root mischief is very common this season among Greens, it will probably have some bearing on the crop next spring. When planting spring Cabbage from the seed bed I noticed several galls on the roots of the small plants. The galls were at once picked off, the maggots destroyed, and the roots subjected to preventive treatment before being planted. Owing to the abundance of gall weevil affectations noticeable this season at the roots of Greens generally, too much care cannot be taken when putting out Cabbage plants to see that they are free from the pest so far as can be discerned, otherwise the results afterwards may be disappointing.—**G.**

— **PLANTS AND AIR ACTION.**—The communication on page 398 from "J. M." is so full of misleading statements, that it is perhaps as well your readers should be aware of them. Thus carbonic acid gas is not "in the form of aqueous vapour," with which he identifies it (the seventh line). Water is transpired in the form of invisible vapour under the influence of special solar rays; while carbonic acid gas is particularly stimulated by heat, and is respired by living protoplasm everywhere and at all times from the plant. He would seem to refer the loss of aqueous vapour to differences of temperature. This is true for the physical process of *evaporation*, which proceeds from all damp and dead objects, but this is not identical with *transpiration*, which is a function of living organs of plants. Though vapour can proceed more readily from open stomata, a good deal passes off through the epidermis, where there may be none at all. Similarly, carbonic acid gas, the product of respiration, is in excess at nights solely because there is no light wherewith it can be decomposed. Such excess does not arise from the soil, but from the plant itself. The "oxygenating influence" is part of the process of respiration. The oxygen of the air unites with carbon *within the plant itself*, and carbonic acid is the result. This is then expired.—**G. HENSLOW.**

¶ — **RAMIE.**—One of the most interesting problems of the day in the utilisation of the new fibre material, and one that is attracting the attention of all civilised countries, is the industrial production of that wonderful substance known in the Orient as China Grass, in India as Rhea, and in Europe and America as Ramie. The money spent by governments and by private enterprise throughout the world, in experiments and inventions, in the effort to establish the Ramie industry would make up the total of a princely fortune. Obstacle after obstacle has been overcome in the years of persistent effort, and now we stand before the last barrier, baffled for the time but still hopeful and with efforts unrelaxed. The difficulty may be stated in a few words; Ramie culture will only become a paying industry when an economically successful machine for stripping the fibre has been placed on the market. Thousands of pounds have been spent in efforts to perfect a machine, but no Government fibre expert in the world recognises that we have such a machine at the present time, though great progress has been made in machine construction. The world's interest in this fibre, says the "American Journal," began in 1869, when a reward of £5000 was offered by the Government of India for the best machine with which to decorticate the green stalks. The first exhibition and trial of machines took place in 1872, resulting in utter failure. The reward was again offered, and in 1879 a second official trial was held, at which ten machines competed, though none filled the requirements, and subsequently the offer was withdrawn.

— **THE ROYAL GARDENERS' ORPHAN FUND.**—The next election of children to the benefits of this Fund, consisting of an allowance of 5s. per week until they attain the age of fourteen years, will take place early in February. All applications must be made on a proper printed form, copies of which may be obtained gratis of the Secretary, or any of the local Secretaries. Such forms must be correctly filled up, duly signed and returned to this office by Tuesday, December the 20th, 1898.—**A. F. BARRON, Secretary, Chiswick, London.**

— **ASPARAGUS IN WINTER.**—The Missouri Experiment Station has been experimenting for the past two years with Asparagus growing, and has successfully grown Asparagus in the open field in midwinter by running steam into shallow tunnels between the Asparagus rows. The Asparagus field was first covered with 6 or 7 inches of heating horse manure, and the steam forced into the soil from the greenhouse boiler. By this means a large yield of fine Asparagus was obtained throughout the months of December, January, and February; the finest quality being had in the middle of January when the weather was coldest. Many of the sprouts were 12 or 14 inches long, and an inch in diameter, blanched perfectly, and very tender and delicious. The amount of steam required was very small, and for persons located near a good market the winter growing of Asparagus would perhaps prove profitable. Bulletin No. 43, by Professor J. C. Whitten, horticulturist, is devoted to this process.—("American Gardening.")

— **PROPOSED WINTER GARDEN FOR BRIGHTON.**—It is proposed to erect a winter garden on part of the site of the Brighton Aquarium, and particulars of the scheme were recently laid before the Committee of the Town Council, which body has by Act of Parliament, certain rights of veto in regard to constructive alterations of the Aquarium. The Committee were informed (says a contemporary) that a syndicate proposed to purchase the Aquarium from the liquidators of the company, and by a liberal expenditure, estimated at £30,000, and the introduction of many new features, including a winter garden, to make the altered and enlarged Aquarium a thoroughly attractive "all day" pleasure resort, available under all conditions of weather. Several new entrances will be provided; and on the eastern portion of the present Aquarium roof a light iron and glass roof is to be formed, extending for a length of about 300 feet. At the western end of the building a covered portion would be provided, which would be available for the public, virtually forming a covered seat and shelter. In acknowledgment of such concessions as may be necessary, the syndicate offer to afford facilities for widening the Marine Parade, adding an area of 1350 yards, particulars of which have already been published. The Committee have unanimously advised the Council to allow the scheme to proceed.

— **OURSELVES AS OTHERS SEE US. AN EMINENT BRITISH HORTICULTURIST ON AMERICAN PARKS. ROCHESTER IS FAVOURED.**—**PETER BARR LEISURELY GIRDLING THE WORLD AT SEVENTY-TWO YEARS OF AGE, TALKS OF THE PARK SYSTEMS OF THIS AND OTHER COUNTRIES.**—That is only a heading, which takes up just five times the above space in bold type in the Rochester (U.S.A.) "Democrat and Independent" of November 15th. Mr. Barr seems to have been interviewed over a column and a half, and after describing sundry parks, proceeds as follows:—"Now I come to Highland Park (Rochester). I visited it three times in three days, and if I were to stay here six days longer I should visit it six times more. It is an inexpressible pleasure. Those beds of flowering shrubs arranged in some fifty odd families, with all the varieties and species that can be secured. I venture to say that there is not another place in the United States or out of it that will compare with it. I was fairly startled by it. Its natural conformation of hills and dales all tumbled about is charming. The effect is beautiful; and what will it be in ten years hence? Every year it will go on improving. There are many rare Coniferae there, and if additions are continued you will have a pinetum unequalled in the world. You have the men with the knowledge, if they are only provided with the means." Then the R. "D. and I." goes on to say, "Mr. Barr from here goes on to Cornell to meet the professors of botany of that institution. Thence to Albany, and through Canada to California; on to Hawaii, on to Japan, stopping to study the ancient horticulture; to China, and next to New Zealand and Australia, and then over to the Cape of Good Hope to study the Tableland flora; and if Cecil Rhodes has his projected railroad finished by that time, he will take train for Khartoum, and thence on down the Nile to Alexandria, and home again, after a round-the-world vacation of three years, which he has worked sixty years to enjoy." To this we have only to add that he will be welcome in London whenever he comes, and may we be there (in King Street) to see, in the same good company as before his departure, Cecil Rhodes had better "hurry up" that railroad.



N.R.S. ANNUAL GENERAL MEETING.

THE twenty-second annual general meeting of the National Rose Society will take place at the rooms of the Horticultural Club, Hotel Windsor, Victoria Street, Westminster, on Thursday, December 8th, at 3.30 P.M.; to receive report of Committee; to pass the accounts; to elect the Committee and officers for the ensuing year; and for the transaction of other general business. The annual dinner will take place at the Hotel Windsor at 5.30 P.M., R. B. Cater, Esq., President of the Bath Floral Fête Committee, in the chair. Members and their friends are earnestly invited to attend this pleasant annual gathering of rosarians.

NOTES ON ROSES.

INSERTING CUTTINGS.

STRONG-growing Hybrid Perpetual Roses may be readily increased by inserting a number of good cuttings in some fairly sheltered position in the open ground. The cuttings must be selected from the central parts of strong shoots, where the wood is firm and stout, also approaching a well-ripened condition. Wood only of the current season is suitable, and the cuttings must be prepared of the length of 6 inches. The base of the cutting must be just below a joint. Only the leaves on the portion of stem inserted in the ground need removal, but all the buds both below and above should be left. The ground must be well worked and plenty of sand added. Form a neat trench with the spade, and place the cuttings so that they will be two-thirds of their depth in the soil when that is filled in and made firm about them. The rows may be 8 or 9 inches apart, the cuttings occupying a space of 3 inches between each other.

Rooting does not actually take place until spring, but a callus is formed at the base of the cutting soon after insertion, which has the effect of maintaining the cutting fresh until the activity of the sap in spring encourages the production of roots. The cuttings may remain until the following autumn where they are inserted. They can then be lifted and planted permanently.

PREPARING SOIL FOR PLANTING.

A loamy soil which is moderately strong, rich, and deep, is the best for Roses, but most soils may be made suitable. Sandy soils are light, and dry too quickly, but they can be much improved by manuring with strong manures, such as cow and pig manure, and the addition of clayey loam. Soils of a very heavy and retentive character, such as very stiff and clayey soil, require well breaking up, incorporating wood ashes, leaf soil, decayed vegetable refuse, road sweepings, and decomposed stable or farmyard manure.

In the case of very poor soil it may be desirable to remove about 18 inches of it, filling up with three parts good loam well mixed with one part manure. Ordinary fertile soil may with advantage be trenched 2 feet deep, though not bringing the subsoil to the top. Add manure between the spits, good decomposed farmyard manure being the best, with a liberal addition of wood ashes and soot, the latter more sparingly than the former. Wet soils must be drained for Roses to succeed. Drain pipes are the best means of carrying away superfluous moisture from the subsoil, placing them at a depth of 3 feet, and protecting with rubble or broken bricks.

Roses worked on Manetti stocks are best for light sandy loams. For stiff and clayey soil those on Briar stocks are superior. Teas and Noisettes do best on the Briar, but the soil may be less stiff for these Roses than the stronger growing Hybrid Perpetuals.

PLANTING ROSES.

A distance of 2 feet is, as a rule, the best for the majority of Roses when planting in beds or borders. Climbing Roses planted against walls or fences may have more space, one plant being required to cover a large area. The comparatively small and weaker growing varieties may have space allotted them in proportion to their habit, the Monthly or Polyantha Roses only requiring a foot of space between each plant. With extra vigorous varieties of any class it is better to allow sufficient space to admit of extension rather than permit crowding in a circumscribed limit.

The roots of Roses ought to be prevented from becoming dried by exposure to the atmosphere from the time of lifting until planting. Success in quickly re-establishing them in fresh quarters depends largely upon maintaining the young and fibrous roots fresh and healthy. Plants received from a nursery ought to be unpacked without delay, carefully laying them in damp soil before attempting to plant any.

Plant in dry weather, when the soil is not sticky. A thorough examination must be made of the roots before planting, as it is essential that bruised and broken portions be cleanly cut away to firm and uninjured parts. Strong thick roots without any young fibres attached may be shortened back, but preserve as many of the young slender roots as possible, merely insuring that their points are cut smoothly should they be in any way damaged. In the case of standard and half-standard trees on Briar stocks, as well as dwarfs on these or other stocks, it is indispensable that sucker growths from the stocks be removed, or they may cause trouble.

Vigorous plants which have made wood freely may with advantage have the wood or long shoots reduced in length, especially if the roots have been freely shortened, deferring the final pruning till the end of March. There will be a more equal balance between the roots and shoots, and less strain upon the former. Dwarfs ought to be planted rather lower than previously, but standards should be planted same depth as before. Spread out the roots to their full extent, spreading light loamy soil among them from the stem outwards, and avoid allowing them to come in contact with manure. Standards ought to be staked and made secure, so that the roots cannot be displaced by wind. Mulch also with light manure.—E. D. S.

ROYAL HORTICULTURAL SOCIETY.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair); Mr. Bennett-Poë, Rev. W. Wilks, Mr. Michael, and Rev. G. Henslow, Hon. Sec.

Tea plants attacked by mites.—Mr. Michael gave an interesting account of a new species of *Acarus*, sent by Mr. E. E. Green, Hon. Gov. Entom. of Eton, Pondaluoia, Ceylon. They were forwarded in tubes filled with sterilised air, a plan which Mr. Green had found very useful for preserving fleshy insects in their natural form and colours. He also forwarded specimens of young Tea leaves attacked by the mite, which causes considerable damage and loss of crop on the Tea estates in Ceylon. Mr. Green writes as follows:—"Some years ago I gave a description and figures of this mite in a little pamphlet on 'Insect Pests of the Tea Plant.' For purpose of registration I gave it the provisional name of *Acarus translucens*, but I find that this name is already occupied by a different mite, described by Nietner in his 'Enemies of the Coffee Tree'; therefore the insect is still nameless. I should be glad to have it properly identified. It is curious in laying two different kinds of eggs, one form being quite smooth, and another form rather larger and beautifully beaded. The latter is the most usual, and I have watched the emergence of the mite from this egg. I have only recently noticed the smooth eggs. The immature insects are very sluggish, the mature ones decidedly active. They attack the young leaves only. As each bud unfolds they move up on to it, deserting the older leaves, which, however, are permanently injured. The attack of the mite imparts a brown scaly character to the leaf cuticle, which persists throughout its life. When the unopened leaf bud is attacked, the punctures are concentrated upon the groove and the infolded edges. This forms a permanent scar, appearing like a strong sub-lateral nervure on the expanded leaf." Mr. Michael observed that the mite was one of the *Tarsonomi*, a group only lately known, but proving to be great destroyers of vegetation—e.g., Box trees at Turin were all destroyed in one season. Professor Canastrini of Padua discovered that the mite bored between the epidermises of the leaf. Another species attacks the Sugar-canes of Barbadoes, but does not appear to be so injurious, though fresh canes swarmed with the *Tarsonomi*. Few species are known as yet, but they are very destructive. They are extremely minute, and have consequently escaped detection until the last few years.

Dahlia crossed with the Sunflower.—Mr. Lowe sent fresh examples of his supposed hybrid. They were very much arrested in growth, and malformed; but they would otherwise be regarded as Dahlias. It may be observed that M. Martin Cahazac attempted to cross the Dahlia with the Chrysanthemum; but in his case, as with Mr. Lowe, the supposed hybrid did not appear to be very marked. (*Gard. Chron.* Dec. 11th, 1897, p. 417.)

Pear-within-Pear.—Mr. W. J. Clarke, Manor House, Benbrook, Market Rasen, sent an example of this not uncommon monstrosity; and Mr. Bennett-Poë brought another example. The Pear has no core, but in its place the apical bud develops into another pseudo-Pear; the terminal bud then attempts to produce a third or more, finally a tuft of small leaves at the top represents the still growing terminal bud.

Pyrus crenata.—Dr. Masters remarked that this tree is peculiar for retaining its large and handsome leaves for a time, after most other deciduous trees have shed theirs. The leaf exhibited was from a tree in a garden at Ealing. It is a native of Nepal, and was described and figured in the *Gard. Chron.*, Jan. 3rd, 1874, p. 17.

NYMPLÆAS AND BEES.—Like "A Gardener and Bee-keeper" (page 393), I have not observed bees at any time working on Nymphæas. I have occasionally seen flies on the flowers, but they did not seem to work much upon them. M. Latour-Marliac has not, so far as I know, made public the means by which he has produced his charming hybrids, but there can be little doubt that it has been done by careful cross-fertilisation. I am inclined to the opinion that bees are even more attracted to certain flowers by the odour than by the colour.—S. ARNOTT.



CYPERORCHIS.

THIS is a small genus founded by Blume on the Himalayan species *C. elegans*, which was known previously, and still is labelled *Cymbidium elegans*. Besides this there are one or two other species, the best known being *C. Mastersi*. The clever Dutch botanist separated these kinds because of the very distinct appearance of their flowers, these being produced in dense racemes and opening only half way. They are distinct and pretty plants, of a noble habit, and worthy a place in all collections. The former has blossoms of a light creamy yellow, those of the latter are white, with usually a few purple spots about the column and lip.

The culture of *Cyperorchis* does not differ in any material particular from that of *Cymbidium* of the giganteum and Lowianum class. The growth and roots both being strong and vigorous render a free and open yet very substantial compost necessary, and a suitable mixture for them will be found in equal parts of peat fibre, loam, and chopped sphagnum moss, all being kept in good mechanical order by the addition of rough lumps of charcoal and potting ballast, this latter material suiting the roots much better than the sharp edged broken crocks in general use. Large pots are necessary, as they soon fill small ones with roots, and in consequence suffer from starvation.

When repotting takes place it is usually impossible to get the roots apart and relay them in new compost, for they enwrap the old material so firmly as to form a complete hard ball. A larger pot must be given, and the vacant place filled with the new compost. First set the plant at its proper level on a bed of drainage material, this level being a little above the rim of the pot. Put a little ballast in before the compost, and see that it gets well to the bottom. Use a thin potting stick, and well firm the new material as it is placed, finishing with a mound to reach the base of the bulbs. Cover the old material slightly, and if a little of it can be previously removed all the better.

The roots are so strong that one good soaking of water may immediately follow repotting. After this let the roots make a move, when they must be kept very moist all the summer, only reducing the supply a little in winter. Syringe the plants daily in hot weather, and keep in a cool, moist, and shady house all the year round. One of the worst pests possible to these Orchids is a very small brown scale—a good deal like it that infests Palms. This insect holds very firmly, and a good deal of force has to be used to dislodge it. Insecticides are no use, and only repeated sponging is of any avail. Again and again the plants have to be gone over if they are badly infested, using tepid soapy water, and rubbing very gently to prevent puncture.—H. R. R.

GOOD GRAPE GROWING IN ENGLAND, WALES, AND SCOTLAND.

No; it is not to pit the work in one country against the other, and claim the best for either, but to recognise worthy achievements in all, though each in a different way, that the triple sub-heading is given to these notes. We shall be equally ready to register notable accomplishments in Ireland when the facts are received for that purpose, for we know magnificent Grapes have been grown, and no doubt are still grown, in the Emerald Isle.

On page 249, September 29th, we illustrated a remarkably fine crop of Grapes produced by young Vines, as grown by Mr. W. K. Pettigrew at Hewell Grange, Worcestershire. They were finishing well a crop of 30 lbs. per rod of 10 feet, after a nearly equal crop the preceding year—the first year of bearing.

In the same issue, on page 252, we recorded a cultural achievement not less worthy by Mr. A. Pettigrew at Cardiff Castle, in growing and fruiting Vines in pots. Mr. W. Iggulden, after inspecting these Vines, told us on the page cited that they were raised from eyes early last year, and were this year fruiting in pots, the canes carrying from 25 lbs. to 35 lbs. of Grapes each, according to his estimate, and few men can be more capable of judging than this experienced grower of Grapes for home use and market purposes.

Then on October 20th, page 302, Mr. E. Molyneux described an admirable example of Grape cultivation by Mr. W. Shingler at Melton Constable. Planted in 1895 the Vines finished twelve to fourteen fine bunches in 1896; last year (1897) they finished equally well twenty-five bunches, and this year (1898) they matured in the best manner forty bunches each, "many of them weighing 5 lbs. and several 7 lbs." With the article was given an illustration of an

imposing new Grape raised by Mr. Shingler. So much for England and Wales. Now for Scotland.

Shortly after this year's autumn show in Edinburgh, at which competitors know very well it is the reverse of easy to win a foremost place in the Grape classes, we received the following letter:—

I am sending you a photo of Mr. Lunt's (Keir) first prize six bunches of Grapes shown at the exhibition of the Royal Caledonian Horticultural Society held in Edinburgh on 14th and 15th of September. If the photo is worth a place in the *Journal*, as I hope it is, I should be pleased to see it reproduced. The Grapes were of the finest quality, and admired by all who saw them.

I have obtained the following details of the weights of the bunches, not taken before staging but after the show was over, and, as you know, Grapes do not gain weight by exposure.

Muscat of Alexandria ...	...	...	...	3 lbs. 14 ozs.
" " " " " " " "	...	...	...	3 " 12 "
" " " " " " " "	...	...	...	3 " 5½ "
Black Hamburgh ...	...	...	...	5 " 2 "
" " " " " " " "	...	...	...	4 " 10 "
Alnwick Seedling ...	...	...	...	3 " 8 "

Mr. Lunt has shown his undoubted ability as a gardener in many ways, and at this last September show displayed his prowess as a first-rate cultivator of the Vine. It was a treat to see such perfect specimens of cultural skill exhibited, and Mr. Lunt was heartily congratulated on his success by many persons who saw his splendid Grapes.

The writer of the above letter may safely be described as one of the best judges of Grapes in the kingdom, and we may therefore conclude that it was not for size alone, but size combined with superior finish, that the Keir Grapes met his high approval. We are not in the least surprised by Mr. Lunt's success in other classes and at other shows as well as in the instance in question.

After a visit to Keir a little more than two years ago, we wrote of the Vines as follows, in the issue of December 10th, 1896, page 564:—"Young Vines are taking the place of old ones, and in a very few years it may be expected that Keir will be as famed for its Grapes as it is for its beauty. February (of the same year) raised Vines were maturing (in September) canes as thick as the gardener's thumb and 20 feet long. Vines raised the preceding February, trained up the back wall, and as supernumeraries, bearing eight to ten fine bunches, and the permanents each two bunches, or an average of eleven heavy bunches to a rafter, in that short time, is excellent work, though Mr. Lunt will not tell you so; he will let you see and judge for yourselves. Black Hamburgs, Muscats, Mrs. Pince—indeed all—were all alike splendid."

It will be seen that, unlike the skilful growers before mentioned who work in different ways on what is known as the "express" system, or obtaining the greatest abundance of good Grapes in the least possible time, Mr. Lunt acts on the principle of cropping his permanent Vines lightly when young, with the object of enabling them to produce a supply of first-class Grapes over many years.

We should be sorry to suggest that Mr. W. K. Pettigrew will not be able to do this with his fertile young Vines, as it would be presumptive to place a limit to the attainments of a skilful man; but we think Mr. Shingler has the better chance of a long continuance of heavy crops under the much greater extension system that he apparently prefers; and it is under this system that splendid, not to say wonderful, crops have been secured for a number of years at Cardiff; though, also for many years, and in many gardens, highly satisfactory results have been attained under the ordinary restrictive methods of one rod to each Vine, especially with a long rafter, though not a few cultivators prefer two rods.

We do not remember finer Black Hamburgs than Mr. Denning used to grow for Lord Londesborough at Norbiton on the single-rod system in a border certainly not more than 4 feet wide. Whether there was any escape of roots from it we are not able to say, but we do know it was as full of fibres as are the pots of Chrysanthemums, the plants of which afford exhibition blooms. Mr. Lunt evidently believes in the advantage of a mass of roots, and does what all gardeners dare not do—chops some off to produce more, as may be seen by the following letter with which we have been favoured:—

I have pleasure in giving the salient points desired as regards the culture of the Keir Vines. The Muscats were the first I started with in 1894. I inserted eyes, in February, of the old Muscat that was here, in turves 6 inches square. When roots showed through the sides I cut the points off each of them and put the small turves on larger, 18 inches square, and thence into planting boxes that I had made for the purpose, 2 feet by 18 inches and 9 inches deep, and planted the Vines during the first week in May in 5 feet of border (3 feet inside and 2 feet outside), which was all I made up for the first year. As our soil is of a heavy cold nature I used a liberal supply of lime plaster, broken up so as to pass through a three-quarter inch sieve, also half-inch bones, along with a heavy supply of wood ashes, for 18 inches deep; the other, 12 inches, was made up similarly, only quarter-inch bones were used instead of half-inch. All the turf was chopped up roughly and wheeled in, and then

the lime, bones, and wood ashes were mixed, the rough turf hand teased and the border made from each layer of about 6 inches deep. Next year an addition of 3 feet was made (inside), but before adding I cut 12 inches off the border, straight down through the roots. Every two years afterwards the same was done until the border was completed inside and out.

year some three and others four. This last year the average weight was about 3 lbs. All the other sorts were allowed to carry fruit the first year after planting, first two, then three, and this last year four bunches.

The two Black Hamburgs in the photo were on the same Vine, also another bunch, which I showed in the first prize, four distinct bunches

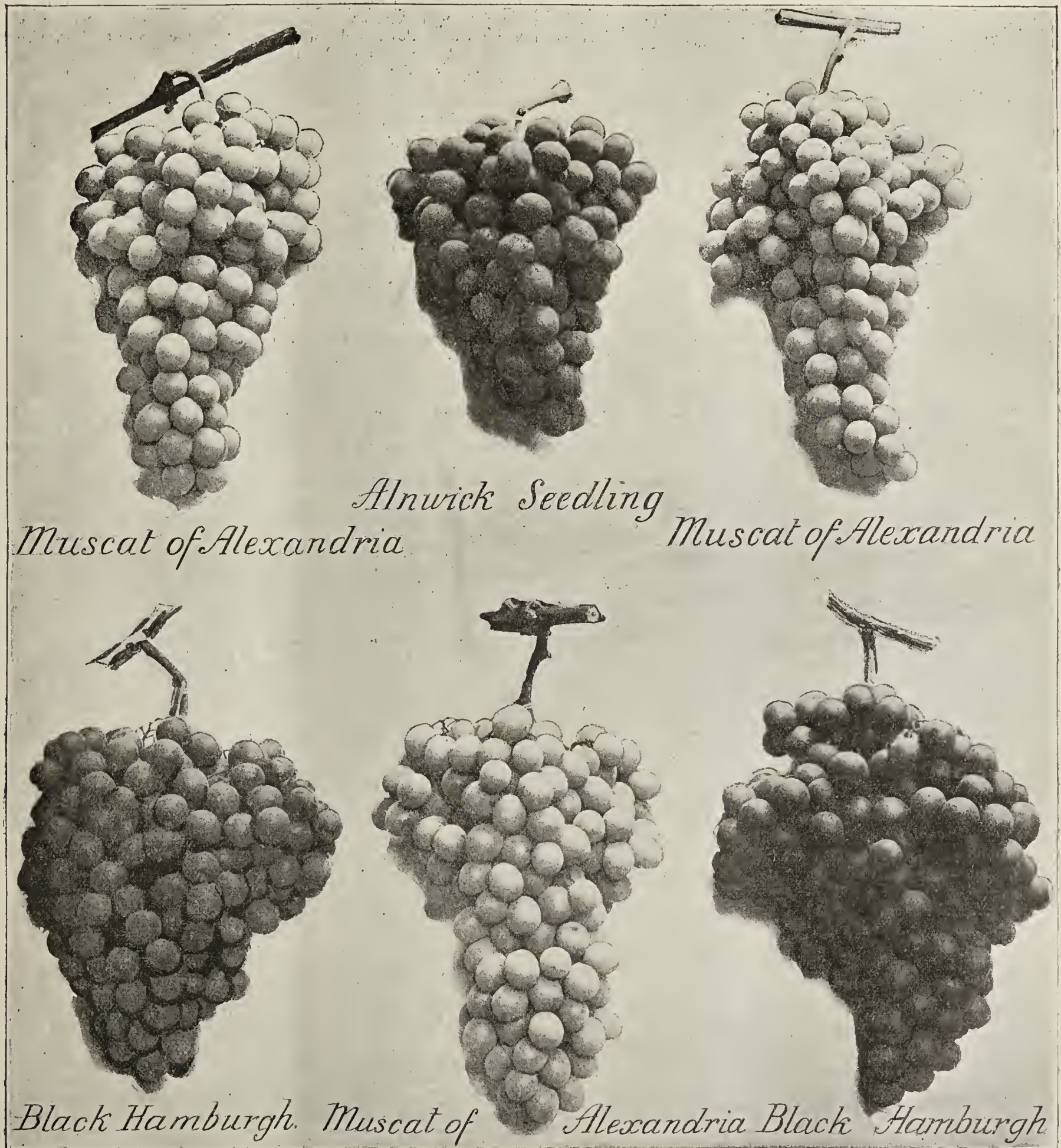


FIG. 71.—GRAPES GROWN AT KEIR.

When the Vines are started I give them a heavy supply of Thomson's manure, pointing it into the border about 2 inches deep, also the same again just after thinning, and always used tepid water when required. A circulation of air top and bottom is maintained all night as soon as the Vines show bunches, with adequate day ventilation. The depth of border is 2 feet 6 inches of soil, and 6 inches of drainage. Muscats were allowed to run one year without fruit, but the second year carried two bunches, the third

in Glasgow the week before Edinburgh Show, and weighed 3 lbs. 10 ozs. The other bunch was small, only weighing 1 lb. 12 ozs.—about 15 lbs. of Grapes on each Vine, and about 12 lbs. on almost all the Muscats. The outside border and roots were cut in July, and a width of 2 feet added every second year, the inside being done similarly in January, and 3 feet added. In pruning, an extension of 3 feet is allowed each year, and the laterals are cut back closely. Very close attention is paid to all

details in routine, including ventilation, and the treatment seems to have answered very well.—THOMAS LUNT.

We think so too, for if we mistake not Mr. Lunt took the first prize for four bunches in two varieties at Stirling, also first for Messrs. Thomson and Son's prizes for four bunches, as well as first for two bunches of black Grapes and first for "bloom." At Glasgow he was first with four bunches distinct, first for two Muscats and first for "bloom." Besides being first with six bunches at Edinburgh he was second with four bunches, winning also three other first prizes—namely, for two Muscats, one Muscat and Muscat for flavour. Clearly the Keir Grapes must have possessed high quality, and we are satisfied with the results of our anticipation.

As will have been seen, Mr. Lunt has taken high honours in some of the best Chrysanthemum competitions recently, as he did in the summer with specimen stove and greenhouse plants. Keir demands a good gardener. Judging by his work Mr. Thomas Lunt must certainly rank among the best all-round cultivators in Britain, and we have reason to believe that his services are appreciated by the master of the beautiful domain, Archibald Stirling, Esq., and of the mistress of the house, Lady Susan Le-lie-Melville.

HOUSE DECORATIONS.

(Concluded from page 392.)

The large dining room adjoined the saloon. The walls were of oak, the carpets of crimson, and there were no pictures of any description; but the massive sideboard glistened with gold and silver flagons, beakers, and tankards. On each side of the fireplace in pale blue enamelled vases on pedestals stood *Phoenix reclinata*, or noble Bamboos, and immediately facing them were two gigantic Nubian figures crowned with *Pandanus Veitchei*, *Dracena norwoodensis*, *D. terminalis*, or *D. Lindenii*. In the spacious bay window a large *Kentia* or *Euterpe edulis* found a place. Flanking this, on marble-topped pedestals in front of mirrors, green painted tins held four or six small flowering plants. The whole surface of the pedestal was covered with fresh *Selaginella denticulata*. Zonal Pelargoniums, *Bambusa Fortunei*, *Eulalia japonica variegata*, *E. japonica zebrina*, *Cyperus alternifolius variegatus*, or *C. natalensis* would be appropriate during the autumn, with berried *Solanums*, *Ardisia crenulata*, or *Rivina humilis* for later periods. No elaborate table decoration was practised, a good flowering plant being preferred for the dinner table centre with four or six small glasses of bright flowers, such as Zonal or Ivy-leaved Pelargoniums, Ghent Azaleas, old gold, terra cotta, or rich bronze Chrysanthemums.

The long drawing room had the greatest display of floral beauty. It may be described in three divisions, formed by heavy rich velvet hangings trimmed with lace. The bay window at the southern end formed an alcove, the middle window having a large enamelled earthenware swan, in the hollow back of which were two or three tall *Acalyphas* during the warm weather. In winter large yellow *Genistas* took their place. On a pedestal of pale blue enamelled earthenware stood a shell-shaped vase of the same shade, holding in warm weather a bright red *Coleus* with yellow margin (this was the only variety of *Coleus* tolerated), while on the central table was an enamelled earthenware vase containing, according to the time of year, *Lilium speciosum rubrum* or *Kraetzeri*, *Pancreatium fragrans*, *Ixoras*, or well flowered *Oleanders*.

The next division was the red drawing room, so named from the colour of the carpets and hangings. Family portraits occupied the walls, and the lounge chairs and settees were of ivory white upholstered in Indian cretonne. At each end of the room flanking the doorway were Nubian figures, 10 feet high, having a receptacle on their heads spacious enough for a 10 or 12-inch pot. A pair of noble Ferns usually occupied them, such as *Microlepia hirta cristata*, *Nephrolepis davallioides furcans*, *Davallia Mooreana*, *D. retusa* or *Gymnogramma chrysophylla*, with occasionally bright *Caladiums*. These figures had in each hand a platter to hold a small plant or a vase of flowers. A large Palm stood at one end of the room, and on small tables graceful specimens $2\frac{1}{2}$ to 3 feet of *Cocos Weddelliana* and *Thrinax elegans* were placed. Let into the corners were narrow mirrors, flowering plants above the couches standing in front on a shelf. *Justicia carnea* or *Celosias*, and in winter *Poinsettias*, with four or five bracts, were popular. This room was lighted by two lofty windows reaching from floor to ceiling, and a glass door. In one of the windows was a marqueterie circular plant stand, with a moveable zinc receptacle in which bright leaved *Dracenas*, *Caladiums*, *Diffenbachia Bausei*, *Abutilon Sellovianum marmoratum*, *A. Darwini tessellatum*, or Zonal Pelargoniums were accommodated during the late summer and autumn. A round table with a crimson velvet cover stood immediately in front of this. Nearest the window on a plinth to elevate it was a tall earthenware vase, arranged with double Hollyhocks, either pure white or red, and sometimes *Tritomas*. A similar vase was on

each side arranged with pure coloured Phloxes, Cactus Dahlias, long stems of *Bocconia cordata*, or *Montbretias*. On the crimson covered table were china bowls of Hybrid Perpetual Roses, Carnations Raby Castle or Duchess of Fife, Sweet Peas or Mignonette, with two glasses of Sweet Peas and a glass plateau, as large as a dinner plate, of *Stephanotis*. On a small table in the centre of the room, on an ornate stand, was a tall porcelain vase arranged in autumn and late summer with *Liliums*, surrounded by four glass plateaux of pink Carnations. In winter the tall vase was filled with Chrysanthemums, and the glass plateaux with Violets. On a 4 feet high cabinet stood a wide bowl of white Sweet Peas, and two glasses of either Sweet Peas, Cactus Dahlias, Allamandas, or *Plumbago capensis*. The mantelpiece had on each side of the mirror a tall vase of *Gladiolus*, *Montbretias*, or *Coreopsis*, and two smaller vases of *Hydrangea paniculata*, *Habrothamnus elegans*, *Clerodendron Balfourianum*, or *Ceanothus Gloire de Versailles*. A side cabinet was adorned with a bowl and two glasses of Sweet Peas on antique carved rosewood pedestals. On each side of the fireplace stood bowls of Sweet Peas, with the long growths as streamers hanging down. A mother of pearl buffet adjacent to the fireplace had a glass dish of *Stephanotis* or *Lapagerias*, while a writing table at one end of the room held two trumpet vases of either *Liliums*, Shirley Poppies, Clarkias or German Scabious.

Leaving this room we entered the blue drawing room, the walls of which were covered with blue satin, having black longitudinal stripes. No pictures adorned the walls. The carpets were blue, and the upholstery was in blue or drab satin and plush. The mantles shelf had an arrangement of shelves in front of a mirror filled with oriental china. Each corner of this square room had four shelves in front of mirrors, on which were white vases occupied by *Panicum variegatum*, or for a change *Selaginella coesia* was utilised. Very little red was allowed in this room, and no purely green-leaved plants. The marqueterie window stand, and an embossed copper stand against the fireplace, were frequently arranged with such white foliage plants as *Aralia monstrosa*, or *Phrynium variegatum* and *Torenia Fournieri*, white Zonal Pelargoniums, or *Heliotrope* in the warm weather, with *Acacias*, *Genistas*, *Mignonette*, *Coronilla glauca*, and *Polygala Dalmaisia* in winter. On the top of the open Broadwood piano a *Campanula pyramidalis*, a large *Pancreatium*, or a standard *Brugmansia* Knighti stood in a porcelain vase. On the floor in front of the piano was another large vase containing a flowering plant. On a table stood a trumpet glass with German Scabious or *Eucharis*, and a glass dish of Allamandas with shoots of *Cissus discolor*. Four bowls of Sweet Peas in mixture with streamers stood on rosewood pedestals against the wall on each side of the mantelpiece. On the ledge of the dado near two of the writing tables, as well as on the tables, were eight or ten small glasses holding white Cactus Dahlias, purple Asters, blue Cornflowers, yellow Corn Marigolds, or panicles of *Francoa ramosa*, *Statice latifolia*, Iceland Poppies, *Cattleyas*, *Oncidiums*, or *Odontoglossums*. All flowers were cut with the full length of stem, and arranged only one species or variety in a glass; no Maidenhair Fern or Asparagus, or other foreign greenery, was allowed.

It may be worth mentioning that the following plants were excluded from the rooms, as lacking either beauty of form, or purity, or brilliance of colour:—*Crotons*, *Fuchsias*, *Gloxinias*, nearly all varieties of *Coleus*, fine-leaved *Aralias* as *Veitchei* and *elegantissima*, *Bouvardias*, and *Camellias*. I have given mostly a detail of such plants and flowers as were available from the end of July to the middle of October. To mention the remainder of the season extending to the end of January would occupy valuable space, and serve no useful purpose.—F. STREET.

APPLE GREY LEADINGTON.

I AM sending with this note a sample of what I consider a very excellent culinary Apple which appears, from the infrequency of any remarks about it, to be very little known. Some five years ago I sent you a couple of fruits from the same tree which you named for me. The specimens sent are part of 35 stone gathered this season from a tree growing in our school-yard. The tree is about 25 feet high, and in perfect health. Its origin is not known by any of the villagers, and it is, as far as I can find out, the only one of its kind to be found in this district. It only bears on alternate years, but carries a heavy load then. Quite two-thirds of the Apples are as good as the sample sent.

The shape is a desirable one, as there is little or no waste in peeling. It is different in this respect from the generality of Apples picked from old orchards, and it has a reputation among the people of being an excellent keeper. It is, I believe, a midseason variety, and is now at its best. If you try the fruits cooked I think you will agree with me that it compares very favourably with the newer varieties of culinary Apples now in commerce; indeed, we in the humbler walks of life enjoy it as a dessert fruit.

The schoolyard was at one time a garden, but for the past twenty years at least it has been used as a playground, and has the usual hard-gravelled surface of such grounds in rural districts. The soil of this district is, for the most part, a stiff clay (one year in four bare fallow is the rule among

the farmers); but all Apples do exceedingly well. Many tons of good fruit are disposed of every season from this village alone. You may, perhaps, be able to tell me if the above-named Apple is now in commerce, as I failed to get any information about it at a well known nursery not far away.—WILLIAM CLAYTON, *Appleton School, York.*

[Grey Leadington is a variety of Scottish origin, and is a good culinary Apple. It is not found in many catalogues, having been superseded by equally good varieties of finer appearance. Occasionally a tree is found of this and other old Apples, the crops of which are very serviceable. The small to medium-sized sample, though satisfactory for cooking, would realise little in Covent Garden. The heavy crops so exhaust the tree that a year is required for recuperation, and hence the crops on alternate years. If the fruits were severely thinned when young, as they cannot very easily be on lofty trees, those retained would be the finer, while blossom buds would, at the same time, develop for producing fruit the succeeding year. This we have repeatedly proved by experiments on bush and wall trees of both Apples and Pears.]

GARDEN REFUSE.

VERY often this is regarded as somewhat of a nuisance, and possibly in some gardens where an out-of-the-way corner is not within easy reach or tolerated it may be so. Indeed, valuable ingredient comes in the form of "burnbake" when the accumulation of refuse in its varied kinds are submitted to a slow smouldering fire. There are few gardens where this can be objected to, and still fewer where the residue from any material burnt could not be found a good use for. Another and equally easy means of disposal may be found in trenching, or even bastard trenching, when circumstances do not permit of deeper cultivation.

During the winter months digging and trenching is constantly in progress. Herein is found an outlet for all and every kind of accumulation, whether of long standing or only from day to day. A layer, varying according to the quantity to be dealt with and the depth to which the ground is moved, placed in the bottom of each trench, and over this a course of manure, adds fertility to the soil of greater duration than manure alone, and provides a store for deep-rooting plants months after its disposal.

Where Asparagus is taken up annually for forcing there is the need for making and planting of new beds to maintain the supply. In some gardens Asparagus grows freely enough, treated as casually as other vegetables; but there are other gardens where special provision is made for planting. This is particularly desired when they are destined to remain undisturbed for many years. Here is another splendid opportunity for ridding the garden of an eyesore. A trench, in width and depth determined by individual circumstances, can be opened the whole length of the intended bed, or, if need be, it can just as easily, or perhaps more conveniently, be done piecemeal, a yard or two at a time. If this is decided on in the autumn it is quite easy to dispose of a quantity of refuse during the winter. A similar provision would answer well for the growth of Vegetable Marrows in summer. I may be told that these need no special culture, but simply planted very much the same as other vegetables, allowing, of course, sufficient room for the Vine to ramble and fruit. This is quite true, no doubt, but it is equally true that Marrows can be produced in positions quite unfitted for other vegetables, or, at any rate, where they would appear out of place. This, with strawy manure squarely built up in an out-of-the-way corner, will provide a good position for Marrows in summer, and by the next autumn all will be in good condition for digging into vacant ground, and its clearance will provide a place for a future store.

In a large garden the accumulation of refuse is a considerable item, and at some seasons of the year demands the provision of a site to which it may be carted. In the course of a brief interview with the well-known gardener at Badminton, Mr. Nash, I had occasion to listen to a very eloquent testimony of the value of refuse. A disused quarry became an ideal spot for the disposition of such material, and, to use Mr. Nash's own words, "there is a good deal to cart away from a garden the size of Badminton." Some alteration made on the lawns, and the cutting out of new flower beds, disclosed the need of removal of much heavy clayey soil, and the question in Mr. Nash's mind was, Where shall I get soil to replace the clay removed, and of a suitable character for such a purpose? His thoughts very fortunately took him to the quarry, which revealed an unthought store of fine vegetable mould, and his discovery at such an opportune moment made his enthusiasm pass almost beyond bounds.

The incidents that have happened during the time this much-appreciated store was going on, to some would be taken as serious. On more than one occasion, perhaps from careless manipulation of the horse and cart, these were deposited with their load into the quarry beneath, the tipping taking place from the top. To see horse, cart, and load being summer-saulted into the quarry might shake the nerves of many a driver, and gardener, too, who is indirectly responsible; but to Mr. Nash, judging from his cool relation of the fact, it was to him only an incident of everyday life, calling for no undue alarm, even though the horse should come out of the ordeal slightly the worse for his experience of quarry life.

The discovery thus made and related did not become an exhausted store in filling newly made flower beds, but when other work in hand required any special ingredient, notably for potting, the advice was go to the quarry, or, as Mr. Nash preferred to put it, to the gold mine—a phrase descriptive of his estimation of well-decayed garden refuse, and one, no doubt, well merited. The rubbish heap at Badminton, though necessarily relegated to a disused quarry, will not in the future be devoid of interest to others beside its well known and highly respected gardener.—W. S., *Wilts.*

PERENNIAL BORDER FLOWERS.

THE "Notes on Alpine Flowers," at present appearing in the *Journal*, may possibly with advantage be accompanied by similar information regarding hardy flowers suitable for the flower border. For convenience it is not, however, intended to describe the various species in such detail, but to speak of the various genera more generally and in alphabetical order. As some flowers are as suitable for the border as for the rock garden, it is impossible to avoid touching upon some of those dealt with in the notes of "Alpinus," but as they will be looked upon from another point of view, this will not matter.

ACANTHUSES.

For picturesque effect the Acanthus has long been appreciated and admired. Its bold habit makes it of much value in the mixed border, and a small bed is at times very effective in the grass. The Bear's Breech is of easy cultivation, and may be grown to the greatest perfection in a rich deep soil, with a position fully open to the sun. These conditions will enable it to grow with greater vigour, and to show its full beauty. Any fairly good soil, not too dry or shallow, will, however, give good results even if the plants are to some degree shaded. The flowers are in long spikes, but the principal value of the Acanthus consists in its foliage, which is of much beauty. About thirty species are recognised, but the greater number of these are either not in cultivation, or from their tenderness or inferior beauty need not be sought after. Perhaps the best for ordinary cultivation are the following—*A. longifolius*, which comes from Dalmatia, grows from 3 to 5 feet high, with purple and rose flowers, and oval, spiny, and pointed leaves. It flowers about June.

A. mollis is a good species, but the form known as *A. mollis latifolius* is superior, with its white or rose flowers and large rather heart-shaped leaves. It should have a warm situation. The nomenclature of the genus is in a confused state, so that some difficulty may be found in procuring the true plant. This remark also applies to another Acanthus—one of the best also—known as *A. spinosus* var. *spinosissimus*, or *A. spinosissimus*. It has rosy flowers on a spiny spike of considerable length and beauty. The spiny leaves are pinnatifid and lacinated with white spines. It grows from 3½ to 4 feet high, *A. mollis latifolius* being a little taller. The Acanthuses may be propagated by division of the roots in spring or autumn, and can also be raised from seeds sown in pots in spring and placed under glass.

ACHILLEAS.

Achilleas or Milfoils vary much in merit. Some are of considerable beauty, while others are poor and weedy. There are too many in cultivation to be treated of exhaustively in these notes, but those named will be found among the most useful of those in gardens. The general appearance of the plants may be best described by referring the reader to the common Milfoil, well known to almost everyone. *A. ægyptiaca*—the Egyptian Milfoil—is often confused with *A. Eupatorium*, which it resembles in the colour of its yellow flowers. It is, however, of dwarfer habit, and only grows from 1½ to 2½ feet high, while *A. Eupatorium* grows from 4 to 5 feet in height. The foliage is also different, and the corymbs of flowers smaller in *A. ægyptiaca*. *A. ægyptiaca* should have a warm and sunny position in good soil. *A. Clavennæ*, which has white flowers and hoary leaves, grows about 10 inches high, and is a favourite with many. *A. Eupatorium*—already referred to—is, if a little coarse, a bold plant, having brilliant yellow flowers in corymbs 4 or 5 inches across, which last in flower for a considerable time. In the back of the border it forms one of the showiest of the border flowers from June to September. The recognised name of this species is now *A. filipendulina*, but it is generally grown under that name given. *A. millefolium roseum* is an old and favourite plant, whose bright rose coloured flowers are often very useful for cutting. It grows from 1 to 2½ or 3 feet high. Its fault is its running habit. Two very useful plants for cutting, and both valued on account of their white flowers, are *A. ptarmica* fl.-pl. and *A. serrata*. Of these there are several varieties. *A. p.* The Pearl is one of the best of these.

There are some pretty Milfoils of much use for the front of the borders as well as for rockwork edgings to the same. *A. ageratioides* with silvery foliage and white flowers is good for this purpose. *A. Herba-rota* is also of value in a warm, sunny position, and has a pleasant aromatic odour when touched. The flowers of this species are white. *A. tomentosa*, another dwarf species, has yellow flowers and downy foliage. *A. umbellata*, with white flowers and silvery foliage, is prized because of the latter. These should have sunny positions in light soil. The Achilleas are readily increased by cuttings or division. They may also be grown from seeds.

ACIPHYLLAS.

One of this genus is popularly known in New Zealand as the Bayonet Plant—a name likely to be recognised as the popular designation for the members of the genus when more generally seen in gardens. As yet the Aciphyllas are seldom seen except in rock gardens, but they also form very distinct-looking plants in a dry border of light soil in full sun. Here they could be used to advantage, and would help to give a garden a more distinct character. The two Aciphyllas most easily obtained are *A. Colensoi* and *A. squarrosa*. The first of these sometimes reaches a large size and forms a bush of long, bayonet-like leaves with sharp points, and having flowering stems with white flowers and spiny leaflets reaching from 6 to 9 feet high.

A. squarrosus sometimes attains the same height, which, it may be mentioned, is only reached by established plants. It has also white flowers, but is denser and more compact in habit than its congener. The Bayonet Plants may be increased by division in spring or by means of seeds sown under glass at the same season. Such effective plants ought to be more frequently seen.—S. ARNOTT.

GARDEN PYROTECHNICS.

It is Guy Fawkes' day, and an hour ago an enterprising youth placed a Catherine wheel on my front gate, ostensibly with the object of gaining access to my pocket under cover of the state of imaginative intoxication that the firework was calculated to produce. Unhappily, success did not attend the design. The wheel fizzed and whizzed merrily enough; but it was only the old, old wheel, and did not tempt me to fling all my small change to the luckless rural Broeks, and never again will they sink their savings in Catherine wheels for the benefit of so unappreciative a Philistine.

But although at the moment of writing Guy Fawkes' day, with its flares and glares, its shooting of rockets and its bursting of squibs, is making itself unpleasant, it will be gone, and may be forgotten by the time these remarks see the light of the garden office or bothy. In its place, however, there will be the recollection of other pyrotechnical displays, whereat the public are dazzled with horticultural rockets. No cellar conspirator called them into being. They are not based on any dark, nefarious design. So far things are in their favour, and however much they may be open to criticism no one can question their eminent respectability. But when this is said the first and last argument against the truth of my parallel has been urged, and we are face to face with the fact that there is a great deal of the damp squib and the misplaced wheel about horticultural exhibitions. The man, or body of men, who organises a flower show has the same end in view as the disillusioned juveniles who illuminated my front gate with a Catherine wheel. Of course, I do not mean that it is a case of pounds, shillings, and pence, and nothing beside. In both instances there is evidence of artistic aspirations; but in the main it is a matter of business. The question is, Are the means employed always and everywhere all that they might be?

One show is very much like another. They proceed on a comfortable jog-trot round. When a new society starts, it does not offer a prize for the best schedule—new and original features to score most points; it simply appropriates somebody else's. This it haggles over for several weeks, but in the end uses, with only a minor alteration here and there, put in to soothe the fiercely moral member. Thus, when show time comes, there is the same order of classes and the same type of competition as prevail at any one of the other horticultural affairs in the district. It seems like the same old wheel, that has been spinning these scores of years past, and is getting tired of the duty.

Garden pyrotechnics are not up with the times—they are stale and damp, they keep up some sort of flickering, but it is not bright enough to allure the public. This is not because of want of example. There are a few cases where the rockets soar to the very clouds. The eyes of the reader turn westward as a matter of course, and he thinks of Shrewsbury. Where else can they go? The patriotic tyke cries "York," and the point is conceded to him. But omitting Shrewsbury and York, what centre is there where the public flock in their thousands? At almost every other exhibition the squire and his friends have the tents to themselves for a time; after six a few amateurs and villagers take advantage of the reduced charge. The bulk of the people do not come; they have seen it all before.

It would, however, be a huge mistake to imagine that horticultural products have no charms for the public. The way they troop to Shrewsbury proves that if the thing is good and cheap enough the people will patronise it. There was never so large a number asking for entertainment as there is now. I do not mean by this merely that the population is larger, but that a greater proportion looks for something out of the daily routine. The newspaper and publishing trades have seized on this fact, and cater liberally for the colossal class which Mr. George Gissing calls the "quarter-educated." There is an opening here, I suppose, for a sneer about cheapness, and an intimation that the "quarter-educated" is not worth thinking about. Isn't it? What about the threepenny magazines with their hundreds of thousands of readers? They are an eye-opener if you like. Remember that they are not rubbish. They charge very little, but they give a great deal for it. And our flower show committees will make more money when they leave their Sleepy Hollows and join the editors in Wideawakeville.

I do not write this without a full cognisance of the fact that it will be unpopular with a large section of the gardening community. It is cheerful and comforting to be patted on the back and told that we are all very clever and pushing persons, entirely beyond criticism. There are opportunist writers in plenty ready to tell us this; indeed, absolutely wanting in the moral courage to say anything else. But none the less it seems the duty of every thoughtful and discriminating person to point out the weak spots. Perhaps his particular rocket may hang fire for the moment, because it is a little ahead of its time, but events move and truth illuminates the heavens.—W. PEA.

SEASONABLE HINTS ON FLORIST FLOWERS.

ONE might reasonably ask at this present time whether there was any florist flower but the Chrysanthemum, for, go where you will, nothing else presents itself. You open any of the gardening papers, and pictures of the Chrysanthemum, descriptions of new varieties, and reports of Chrysanthemum shows fill their pages. You go up to London and attend the meetings of the R.H.S. at the Drill Hall, and there in a sparsely furnished room you find the Chrysanthemum in evidence. Horticulturists meet, and one asks the other "Are you going to the Chrysanthemum Show at the Aquarium?" "Not I," is the reply; "I should not mind seeing the flowers, but the light is so bad, and the noise so great, that I shall not attempt it."

Chrysanthemums meet you in the streets, and the florists' shops are quite full of them; and yet I remember the time when there were hardly any of them, when one used to make a pilgrimage to John Salter's at Hammersmith to see some of the new varieties which he annually introduced from France and the Channel Islands. One remembers, too, with what pleasure we hailed the advent of the little Pompon after the introduction of the Chusan Daisy by Mr. Fortune, and then with what a shrug of the shoulders and upturned noses we regarded (the ragged Jacks as we called them) the first Japanese varieties, and what a foolish prophet he would have been thought who would have ventured to predict that this latter section would have almost ousted all others, and have increased to such a size. But I must stop, for I did not commence this with the idea of writing anything about the Chrysanthemum, but of other florist flowers which really do exist and deserve a little consideration and care at this season.

THE AURICULA.

The extraordinary and beautiful autumn which we have had in this part of England (the south-east) has been favourable in some respects to the conditions of these flowers. I have never kept my frames containing them in their summer quarters so late as I have done this year. Again, the almost total absence of rain has relieved one of any anxiety about drip—that most deadly enemy to the Auricula—and consequently my small collection never looked in better vigour. But alas! there is one drawback; a larger number than usual of the plants have thrown up autumn blooms, and one knows how prejudicial this is to the bloom in the spring, and I hear from others whose collections are much larger than mine, the same thing has happened with them. The plants will now only require to have the dead leaves pulled off and aphids got rid of either by brushing with camel's-hair pencil, or by fumigating the frame or house in which they are lodged. It is probable with a night temperature of 45° the plants will require more water than in ordinary seasons, but it should be carefully applied, for it is not desirable to stimulate them at this season.

CARNATIONS AND PICOTEES.

So far as I can judge from my own experience, which was corroborated by the testimony of other growers, this has been a most favourable season for these plants. The layers have rooted well, and ought now to be in pots and placed in their winter quarters. I am no advocate for planting them out in the autumn; they may succeed, but if hard weather ensues they may be dragged out of the ground by frost, or their foliage injured, while the grass produced will be too strong for good layers next year, for they will be what honest John Ball calls "gouty." I think in one sense it is a matter for regret that the beautifully refined Carnations and Picotees of former days have given place in many instances to what are called Fancy and Border varieties. We are told by some that this was because they were so overdressed that it was not the man who could grow them best but he who could dress them who was sure to be a winner in any competition. I do not think that this is a correct view of the case, though no one has written more strongly against this evil practice than myself.

It arises from other causes. The Fancy and Border varieties are showier, and under the present system of growing they afford a larger number of blooms for cutting than the Show varieties. I have seen stands of these flowers which were quite as much dressed as the Show varieties used to be. It is the ever-increasing taste for cut blooms for home decoration, added to the desire of not taking trouble, that has led to the change. The gardening fraternity is very much indebted to Mr. Martin R. Smith for the encouragement he has given to these flowers by his careful hybridising and cultivation, so that from packages of seed very beautiful and varied flowers may be obtained, and he has generously distributed this seed to the members of the Carnation and Picotee Society.

GLADIOLUS.

The lifting of the corms of these beautiful autumn flowers should now be completed. It is still, as it has ever been, a perplexing question as to why so many perish, no matter what the character of the season may be. The present ought to be considered as a most favourable one for ripening the corms, as it has also been for the gathering of seeds. The corms when lifted should be placed in a cool greenhouse and gradually dried off. Those who wish to continue their stock of named varieties must bear in mind that this can only be done by carefully saving the spawn, as it is called, or young corms which cluster round the base of the parent. These will some of them flower next year, but most of them in two years' time.

When the roots are dry the old corm should be separated from the new one which has been formed this year and thrown away. The small

ones must be carefully gathered, some varieties producing many more than others, and placed in small boxes or paper bags with a little sand, and kept in a dry place till planting time next year. I know of no better way of keeping the parent bulbs than that of placing them out in an open tray where they can be moved about but kept entirely free from frost. I think, however, that a change is likely to take place with regard to them. The two or three growers for sale in England have, by careful hybridising and selection, obtained such fine strains of seedlings, that I think anyone commencing their culture might be well satisfied with some of the mixed seedlings that are offered for sale. I have compared some of those seedlings with several of the newer French varieties, and for size, substance, and variation of colour, have found little to choose between them.

Some novelties of the Lemoinei type have been recently introduced, and although I do not think that they will ever equal in beauty those of the gandavensis section, yet they seem to have a greater vigour of constitution; and, judging from my own collection, they are much more able to bear the severity of our winters than the gandavensis section. They may be, I think, with safety left in the ground, provided they are covered with ashes or cocoa-nut fibre refuse. Lemoine himself never pretended that they were perfectly hardy at Naney, and always recommended slight protection.

PANSIES.

These ought by now to be safe in their winter quarters. They are best wintered in small pots in cold frames. An attempt has been lately made—not very successfully, I think—to revive an interest in these in the South of England, but our climate is too dry, and our plants are too subject to mildew, to admit of their very successful cultivation here; they require the moist climate of the North of England or Scotland, where they can be seen to perfection.

TULIPS.

There was probably never a more favourable season for the planting of these showy bulbs than the present one. After the long spell of drought, the week's rain which we had in October put the ground into the very best condition for planting them. Here, again, is another florist flower of whose glories in past years I have a vivid recollection. Gradually, however, the cultivation of it in the South of England decreased, and although a gallant attempt was made by some enthusiasts to revive it, I am afraid it has been attended with little success. It was a great trouble to grow them successfully; to keep all the bulbs distinct; to arrange the rows in the beds in the right order and height. They were expensive, too, because they could not be properly grown unless a regular tent was made over the bed, so as to keep them from the sinister influence of damp weather. I think it was a great pity, for a good bed of rectified Tulips was unquestionably a gorgeous sight. But that curious thing fashion—for which no one can quite account—has exerted its influence, and the florist Tulip no longer holds the high place it used to do.—D., Deal.

THE WATER SOLDIER.

MOST certainly, "Journeyman," there is a native plant known by the above name, and botanically termed *Stratiotes aloides*. It is found in the fens of Lincolnshire and Cambridgeshire, and is one of our handsomest native aquatics. It is a perennial stoloniferous plant. The flower stalk rises from a sheath amid the Aloe-like leaves; hence its name. It flowers in June and July, sometimes ripening seeds, which always produce plants of the original type. It is a singular-looking plant, having a star-like tuft of leaves, the edges of which are armed with teeth like prickles, that are very sharp. It may be cultivated in ponds where there is a moderate depth of water and mud for the plants to root in, and when once established they are well able to take care of themselves. They appear to prefer rather stagnant water than otherwise.

EPIPHYLLUM TRUNCATUM.

THE small plants which are seen in most gardens of this species and its varieties give one a very poor idea of its real worth as a winter-flowering plant, but when such specimens are grown as are turned out by Mr. Wallis, the head gardener at Orwell Park, Ipswich, its full value is apparent.

Mr. Wallis grows his plants in two ways—as pyramids and bushy headed standards. The pyramids vary in size from 5 to 7 feet in height and from 2 to 4 feet in diameter; the standards are grafted on stocks 3 to 4 feet in height, and are of various sizes, the heads of the largest being 4 feet through and from 2 to 3 feet deep, and sometimes plants have been had the branches of which drooped so as to partly hide the pot.

At the time of my visit, November 1st, the plants were thickly covered with buds which were just commencing to burst into blossom, and they looked a magnificent picture, the shape of each plant being perfect, and all in splendid health. Most of the plants are seedling forms raised at Orwell Park. They are grafted on *Pereskia* stocks.

As soon as they are growing well after grafting they are potted into 8 or 10-inch pots, a good mixture of lightish soil, with brick rubbish added, being used. Each plant is given an iron stake when potted, and from this the foundation of the plant is laid. This is the only potting, feeding being resorted to to keep the plants going afterwards. When

they have attained the necessary dimensions they are pruned annually, after flowering, to keep them within bounds. They are grown in a moist intermediate house, in full sun, and this is evidently what they require.—W. D.

[We regret that the photograph sent by our contributor is unsuitable for reproduction, as it represents most excellent culture—a floral pyramid apparently nearly 6 feet high. The growing beauty of such plants can well be imagined, and we congratulate Mr. Wallis on the success he achieves.]

WOKINGHAM CHRYSANTHEMUM SHOW.

NOVEMBER 22ND AND 23RD.

THE Wokingham and District Chrysanthemum Society held its fourteenth annual show in the Drill Hall on the above dates. The chief feature of this show was the groups, and the four classes provided brought a spirited competition.

The chief class was for a group of Chrysanthemums and foliage plants, arranged for effect, and this was well won by Mr. W. P. Bound, gardener to Mrs. Leveson Gower, Bill Hill, with a very tasteful arrangement. The



FIG. 72.—THE WATER SOLDIER (*STRATIOTES ALOIDES*).

second prize was taken by Mr. J. Cowie, gardener to Sir Thos. Lucas. Another important class was for a group of Chrysanthemums, not disbudded, and this was easily won by Mr. W. C. Mahn, gardener to W. H. Palmer, Esq., Wokingham, with excellent plants, well furnished with foliage and plenty of bright fresh flowers. This group was also awarded a certificate of merit.

In the cut bloom class the competition was not very keen, and for twelve incurred the first prize went to Mr. G. Lane, gardener to Miss Ridge, King's Ride, Ascot, who had good blooms of *Mlle. Lucie Faure*, *Miss Dorothy Foster*, *C. H. Curtis*, *Ma Perfection*, *King of Orange*, *Empress of India*, *Mrs. R. C. Kingston*, *The Egyptian* (good), *Violet Foster*, *John Fulford*, and *Bonnie Dundee*. The second prizetaker was Mr. Bassil, gardener to H. D. Evans, Esq., Shooter's Hill, Pangbourne. For twelve Japanese blooms, Mr. Bassil was first with fine examples of *Lady Hanham*, *Edith Tabor*, *Australie*, *Ella Curtis*, *Charles Davis*, *Baroness Rothschild*, *Mrs. W. G. Palmer*, *International*, *Van den Heede*, *Miss M. Blenkinsop*, *Miss Nellie Pockett*, and *Mrs. Maling Grant*. Second, Mr. Chamberlain, gardener to F. M. Loneragan, Esq., Cressingham Park, Reading.

For six blooms of one variety, incurred, Mr. Lane was first with fine blooms of *C. H. Curtis*; and for a similar class of Japanese, Mr. Bassil was first for good blooms of *Australie*. Apples and Pears were well shown, the chief prizewinners being Messrs. Chamberlain and Bound.

— POTATO SYON HOUSE.—In Mr. Bannister's collection of vegetables at the recent Bristol Show this variety made a striking and a strong dish. Its handsome shape, smooth skin, with little suspicion of eyes, and its medium size, to my mind stamp it as an ideal exhibition Potato. I have noted that it has had frequent reference made to it this season, so that to those who may not happen to be acquainted with it the coming seed time will give them the opportunity for next year's planting. Apart from its exhibition value it is a good maincrop sort for the garden, and has the reputation of being of the best quality when cooked—this perhaps the only practical test of what a good Potato is.—W. S.



FRUIT FORCING.

Cherry House.—The trees must now be pruned, though full-grown trees properly attended to in stopping during growth will require little attention now. Any summer shoots that have grown considerably, and are not required for extension, should be shortened or removed as required. Cut out dead spurs, and thin those which are crowded, always reserving sufficient for producing a crop. The terminal shoots in the case of trees extending must not be shortened, but when they reach the extremity of the trellis they will need shortening, always to a wood bud. Young trees will require to be cut back, the central shoot or shoots being shortened so as to originate others for filling the space regularly. Fan-training is the best for Cherries and all stone fruits, as it admits of replacing any branch that may succumb to gumming or other cause. Thoroughly cleanse the house and the trees; remove the loose surface soil and supply fresh loam, sprinkling on this a good handful of some approved fertiliser per square yard. The roof-lights being off, they need not be replaced until the time arrives for starting the trees, which, to have Cherries ripe early in May, should be at the new year, closing the house at the middle of this month. Trees under fixed roofs should be well supplied with water if required. Cherries in pots will require similar attention.

Vines.—*Houses Started in November.*—Whether the Vines are in pots or planted in inside borders the temperature will need to be increased to 60° at night in mild weather after the buds break, gradually increasing it from that stage to 60° at night when the Vines are in leaf, 65° by day in severe weather, and 70° to 75° in mild weather. Ventilation should begin at 70°, just a little to insure change of atmosphere, increasing it with the sun heat. Sprinkle the Vines in the afternoons of fine days, and damp the floors and walls twice a day according to external circumstances, avoiding a saturated atmosphere on the one hand and a dry one on the other. If there be evaporation troughs charge them with liquid manure. Disbudding should not be practised until the bunches show in the points of the shoots, but the Vines must be tied in position as soon as the growth has well commenced, and before the shoots are so long as to be liable to be damaged in the operation.

Houses to Afford Grapes in May.—The Vines that are to afford Grapes for table at the time stated must be started at once. To insure a good break the atmosphere must be kept moist, and nothing insures this better than a bed of leaves and stable litter properly sweetened, placing the materials on the floor and turning daily, adding fresh as requisite. Outside borders should have the needful protection from cold rains, snow, and frost. Where the roots of Vines are entirely outside a covering of warm litter is preferable, two-thirds of leaves and one-third of stable litter being excellent. Such Vines, however, are not suitable for early forcing, as for that purpose the roots should be mainly inside. Inside borders must be brought into a thoroughly moist state by applying tepid water. Maintain a moist atmosphere by syringing two or three times a day in bright weather, occasionally only in dull. The temperature should be 50° at night in severe weather, 55° when mild, and 65° by day, except the weather be severe; then maintain at 55°, not exceeding those figures until the Vines commence growth.

Midseason Houses.—Prune the Vines directly or shortly after the leaves have fallen. This is advantageous in securing complete rest. Thin-skinned Grapes keep better cut and placed in bottles of clear rain water, with a piece of charcoal in each, than on the Vines, especially under a leaky roof, or even when this be tight, but plants in the house. In a suitable room the Grapes have a more equable temperature than is possible in vineries, and they keep longer and quite as plump. Keeping late Grapes on the Vines to mature after the leaves have fallen certainly improves those having a coarse flavour, such as Gros Colman, and the Grapes, from their leathery skins, are not so liable to injury from damp as the thin-skinned Grapes, therefore they are left until the new year, or later, before cutting and bottling. In the case of midseason Grapes, however, it is well to prune them directly all the leaves are down, and cut and bottle any Grapes at that time remaining. Thoroughly cleanse the house, dress the Vines, top-dress the border after removing the loose surface soil, and keep the house as cool as possible.

Late Houses.—Take every possible precaution against damp. Drip is fatal to late Grapes, a single drop of water getting inside a bunch being sufficient to spoil it, as the decay spreads rapidly. Drip is often caused by keeping the house closed and the pipes cold, so that moisture condenses on the glass and falls from the rafters or sashbars on to the Grapes. This is common when early ventilation is neglected on fine days. A little air and gentle warmth in the pipes dissipates the moisture and prevents decay in the berries; but too much heat and too dry air cause the Grapes to lose weight (a matter of importance with market Grapes), and sometimes to shrivel. Seek, therefore, a dry, cool, and equable temperature, 40° to 45° being sufficient, except for Muscat of Alexandria, which requires a temperature of 50°, keeping the house closed in damp weather, and when clear admit air freely. Remove all leaves as they become ripe, avoiding sweeping, as dust greatly impairs the appearance of Grapes. Look over the bunches occasionally for decayed berries, promptly removing them, otherwise they soon spoil adjoining ones, and ruin the Grapes.

THE YOUNG GARDENERS' DOMAIN.

PHYLLOCACTUS CULTURE.

WE often find succulent plants given a very obscure place in gardens, and they receive little or no consideration beyond putting on a shelf out of the way and watering when convenient. There are, however, many plants of this class which deserve proper attention. Those who visited the Temple Show last spring would be struck by the gorgeous display of Phyllocactus shown by Messrs. Veitch & Sons.

We may occasionally see them in fair health in cottage windows, but we, as gardeners, should be able to afford them a well-lighted position at the warmer end of the greenhouse. Overpotting should be guarded against. A good compost consists of light fibrous loam with a liberal addition of lime rubble or broken crocks or bricks. Water should be applied with care, especially in winter.

If the plants are placed outside during the warmest of the summer months they will be more likely to flower well, because by such treatment the growths will be thoroughly ripened. A light warm place indoors is good for them in winter, and in the spring, as the days get brighter and the sun stronger—i.e., about the beginning of April, they may have a slight syringing occasionally before the flower buds open. Many of them should flower in June.

They may be easily propagated from cuttings of firm, well-ripened shoots. Place these in a light, sandy compost, and keep dry till rooted, when they may be removed into a compost like that given for old plants. Seeds are readily produced, and some good varieties have resulted from crossing. Sowing should be done in spring.—X. L. C. R.

THE BEE-KEEPER.

THE SEASON'S REVIEW.

WE often advise bee-keepers to prepare for the future, knowing full well that it is useless to expect a full harvest of honey unless preparation is made beforehand. It is, however, advisable to occasionally look backward and see how far the season has come up to our early expectations. We venture to say that many bee-keepers who do so at the present time will have no hesitation in saying that it has been disappointing in the extreme. This is the more to be regretted considering the favourable condition the majority of stocks were in last spring.

Owing to the extremely mild winter, colonies that were well supplied with stores the previous autumn were stronger at the end of March than they sometimes are two months later. In addition to the mildness of the weather there was a very light rainfall, all that was registered in this district (South Yorkshire) during the first three months of the year being 2.44 inches, which fell on twenty-eight days. This was in marked contrast to the first three months of 1897, when 8.27 inches were registered on fifty days. The drought prevailed with more or less severity throughout the country. The grass and all the herbage was dried in the southern counties, so that the bees were at a standstill owing to the absence of bloom in the fields and hedgerows after the early spring flowers were over.

In the north bee-keepers were more highly favoured in this respect, although in the end they were no better off than their southern neighbours, owing to the prevalence of honeydew, which spoiled what would otherwise have been a good sample of honey. This was the more disappointing, as in some districts we know it would have been a record season for weight of honey obtained from a given number of stocks.

During the past two months we have travelled through several of the southern and western counties of England, and during our sojourn have met many bee-keepers, and without exception they all complain of the shortness of the honey harvest; nor is it to be wondered at, when one takes into consideration the parched-up pastures in those counties.

As before mentioned, the honeydew was the chief cause of the shortness of marketable honey in the north. But this was not confined solely to the north, as in a western town we observed some very dark honey offered for sale that was strongly impregnated with honeydew. When honey of this description is offered it doubtless does a great amount of harm to the home producer by causing the dealer in the future to obtain foreign honey in preference to the home-produced article, and bee-keepers have only themselves to blame for this state of affairs, as it is much better to reserve a bad sample for feeding purposes. It is only fair to the bee-keepers of the western town where the above mentioned honey was offered for sale to say that several dozen of the best finished sections we have seen this year were noted.

The bee-keepers who have derived the most benefit from their bees during the past season are those who have moderate-sized hives, and

as soon as they were crowded with bees in early spring placed supers on them, and thus obtained an early crop of honey from the fruit trees and other early flowers.

DEATH OF "A LANARKSHIRE BEE-KEEPER."

Intelligence reaches us of the death of Mr. William Thomson of High Blantyre, N.B., who some years ago contributed apiarian matter to the columns of the *Journal of Horticulture*. He was an essentially practical man of the old school, and a good helper to many in the management of bees and honey production. We have no details of the age of Mr. Thomson, but think he was an octogenarian.—AN ENGLISH BEE-KEEPER.



- All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Cherries Dying (W.).—The specimens are under examination, and will be reported on in a future issue.

Cardoon (O. F.).—The "head" is that of the Spanish variety, which is a perennial, but not of any use as a vegetable unless raised from seed every season, as stated in our former reply. The plants have been sown too early, otherwise they would not have run to seed. The material you name will not answer so well as hay bands for blanching. The roots, so far as we know, are not edible like Parsnips, being too woody.

Violets Damping Off (W. R. R.).—The Violets have probably been grown too long in the same ground, and need a change. This we have found to make a great deal of difference, and we always grow ours from single crowns, never tolerating any runners, and mulch with short manure; thus we get splendid clumps and grand flowers. Damping has been very prevalent this season, both outdoors and in frames, the leaves going off in a very short time. The leaves first spot, then this rapidly spreads over the whole, rendering them quite slimy and rotten. It is caused by a fungus, *Peronospora Violæ*. We use freshly burned lime reduced to a powder, with the smallest amount of water necessary, and dust on the plants occasionally. It answers well. Better still freshly burned lime ground to a powder and mixed with an equal quantity of dust charcoal, also dusting on the plants. By all means thin the leaves if too crowded, for the fungus hates light and a free circulation of air about the crowns. The treatment appears very suitable in other respects.

Grafting Apple Stocks and Roses (W. Warwick).—1, The best method of grafting Apple stocks (seedlings) about 1 inch in diameter is whip or tongue, inserting the scions about 6 inches or not more than 9 inches from the ground. 2, In grafting Roses the junction of stock and scion should be buried in potting, as this insures uniform moisture and a speedy "knitting" of the formative layers together. 3, The best time for grafting Roses under glass is from the middle of January to the close of February. We prefer the first fortnight of the last named month. The stocks are best started about a fortnight in advance of grafting, the bottom heat, if any, being mild (65° to 70°), and the top heat 50° to 55°, so as to get the stocks in advance of the scions, which should be quite dormant when attached. After the grafts are inserted, the stocks should be retained in the same heat until a union between the parts has taken place, when they may be gradually hardened and grown in more suitable quarters. In large establishments the stocks are worked before potting, and placed at once in the hotbed (70° to 75°), and top heat 55° to 65°. Scarcely any fail in the hands of experts, but we prefer the former method.

Caterpillars from Chrysanthemum Blooms (Cedo Nulli).—The caterpillars, one light brown in colour and the other grass green, are the larvæ of the common angle-shades moth (*Phlogophora meticulosa*), which appears from July to November, it is of a dark brown colour, with a purplish wash on the darker portions of the fore wings, and has light-coloured markings. The caterpillars may be found in late summer and autumn, and they change to pupæ when full fed, moths emerging in about a month. Commonly the caterpillars feed on Broom, but may be found on a great variety of plants, both in the wild and cultivated state. The later broods are very fond of Chrysanthemum blooms, living and feeding inside the florets, and there remain concealed by day instead of descending to the ground. When full fed they descend to the ground and spin a cocoon of silk mixed with earth, in which they change into brown pupæ, and from these moths emerge, as above stated. The moths are most plentiful in the autumn, and the larvæ feed from November to April. There are two, if not more, broods of the pests in a season. The only means of treatment is to capture the moths, or failing that search for and destroy the caterpillars, which amounts to the same thing in the end—riddance.

Planting Apple and Plum Trees (W. M. W.).—The sooner this is done the better when the land is in a free working state, but do not plant when the land is either frozen or wet and adhesive. If it is not in suitable condition when the trees arrive, dig a trench, lay the roots in it, well covering them with soil, and there let the trees remain in a slanting position till the ground is free, clean, and pleasantly workable. It is better to let them rest there even for months than to plant when the land is unfavourable for the purpose. Good fruit may be grown in a depth of 18 inches of soil, such as will grow the usual kinds of vegetable crops well, even on a sandy gravel subsoil, but, of course, the better the surface soil is the more fruitful the growth of the trees will be. They prefer soil of a rather strong to that of a very sandy nature, and if yours is of the last-named character a barrowful of a different kind for placing under and over the roots of each tree would be of decided advantage. Turfy roadside trimmings are excellent for the purpose, and far better than the best of natural manure. Whether you can get any fresh soil or not, we should not mix ordinary manure in that in which the trees are to be planted, but two or three spadefuls of wood (not coal) ashes and a pound of basic slag, mixed in about a square yard, or that forming the station of each tree, would almost certainly be advantageous. In planting, break up the soil down to the gravel in a circle twice the diameter of the spread of the roots of the trees to be planted, or say a width of at least 3 feet. The centre of this station should be in the form of an inverted saucer-shaped mound, the top being within about an inch of the natural ground level. The soil in the station ought to be compressed by treading, though if it is heavy not to any great extent, whereas if light and sandy it should be made tolerably firm throughout, then just loosening the surface of the mound for the roots to rest on. These should be spread out regularly, like the fingers of your hand when resting on the table in an easy natural manner, the roots will then slightly point downwards. Cut off every broken end with a sharp knife, a little slantingly, from the under side upwards. It will then be like the "cutting" of a plant, and emit a number of small fibrils. Place the best soil you have under and over them, as disposed in tiers, so to say, not crushing all together and let the uppermost layer be covered about 4 inches deep. The trees will then appear as if on flattish mounds about 3 inches above the general ground level. Cover these with littery manure to arrest the radiation of what remains of the summer's warmth, for the earth will not arrive at its coldest for several weeks, and a very few degrees have their effect on root activity. If the trees are standards stake them, having a pad between the stem and the stake. Whether standards or otherwise they may be expected to have four or five young branches 2 feet long or so, with some smaller about a foot in length. In the spring, when the upper buds are starting, cut back the strong ones, removing about two-thirds their length, and let the end bud of each shortened branch point outwards, but do not cut back the weak shorter branches till the buds from the stronger push growths about 3 inches long, then take the smaller out entirely. That is the best way to incite root action and insure free growth the first season from the buds on the lower part of the stronger branches—the best for forming a good foundation, or base, for the trees. Such close shortening of the main branches will not be needed again, but any that extend about 2 feet may have 6 inches taken off them. After that the trees will have a sufficient number of branches for producing crows in a natural way, and continual shortening year by year would crowd them with fruitless wood. The branches ought to be so thinly disposed that, when they are in full leaf, the sun's rays can pass between them. They will then be fruitful, as they cannot be when the trees are crowded like a thicket in the summer. When the sun attains power in the spring rake off the litter from over the roots to permit the rays to warm the soil. This will be done the more readily by running the Dutch hoe through the surface occasionally in bright weather, and nothing can expedite root growth so well as admitting the solar warmth; but—and this is important—after a time, perhaps in June, hot dry weather may set in, and then alter a watering, if needed, the surface must be covered again, from the stems to beyond the extremities of the roots, with shorter manure or decayed vegetable matter. This is for keeping the upper layer of soil moist and causing it to be filled with fibrous roots for imbibing the nourishment provided. If the surface get too dry the roots will go down to the subsoil. Leave the summer mulching to decay, and each following season add an inch or two of manure or decayed vegetable refuse, giving also a sprinkling of fresh soil, lime, and wood ashes, and the trees will prosper. Secure a network of surface fibres, keep them there, and feed them in the manner suggested, and you need not trouble much about the gravel

below. You will perceive that digging with the spade is prohibited, but the surface may be lightly pointed over with a fork when trimming up the garden after the leaves fall, and casting a little fresh soil over the roots at the same time—a practice that is infinitely better than digging them up with a spade.

Lowering Alsophila australis (S. G. J.).—The best time to cut off the stem below the mossed and well rooted part is the autumn, when there is the least evaporation from the foliage. The roots already formed will extend during the winter, and the plant make good growth in the spring. We advise the operation to be performed without delay, as least likely to cripple the present top. We have operated in a similar manner as you propose during January with perfectly satisfactory results. When water is required let it be given in a warm state.

Destroying Scale on Peach Trees (E. G. C.).—If the wood is perfectly ripe, and it must be to produce a splendid crop of good fruit, the trees may be sprayed with a solution of caustic soda (93 per cent.), and commercial potash or pearlash, 1 oz. of each to a gallon of water, applying at a temperature of 130°. In applying, it suffices to moisten all the parts of the tree. As this is somewhat difficult to effect with trellis trees, the solution may be applied with a brush, but not excessively, suffice to moisten every part, and draw the same way as the growth, so as not to injure or dislocate the buds. The solution kills other pests, such as red spider, and their eggs. If the wood is not ripe use petroleum emulsion, diluting according to the instructions.

Chrysanthemums for Market (A. D. H.).—We have been favoured by three growers of flowers for market with the following lists of varieties which they have found the most satisfactory; but prices have been so low this year that it is said little profit has been obtained on the outlay for materials, labour, and incidental expenses. However, we give the lists of Nos. 1, 2, and 3 only. Late varieties are grown for market by No. 1, and he recommends the following:—Stanstead White, Niveus, Mrs. Jos. Thompson, Madame Lacroix, Western King, and Etoile de Lyon. No. 2 says six early varieties are Ambrose Thomas, Harvest Home, Madame Desgrange, O. J. Quintus, Yellow Selborne, and Lady Selborne. Six lates comprise L. Canning, Princess Victoria, W. H. Lincoln, Putney George, Mrs. J. Thompson, and Tuxedo. No. 3 names seven early—Comtesse Fouchier de Cariel, Ryecroft Glory, Mrs. Hawkins, Mytchett White, Lady Selborne, Harvest Home, and O. J. Quintus. Six late—W. H. Lincoln, Lord Brooke, Ethel, Princess Victoria, Niveus, and Etoile de Lyon.

Fruit Trees (O. F.).—Providing the Apple trees were properly planted last year, of which we can form no opinion, it would only retard their growth to lift them and replant. If improperly set, of course, the sooner any error is rectified the better. Trees recently planted and not pruned rarely make much growth the first year. If the long young branches were left there full length cut them well back, removing two-thirds. Allowing turf over the roots is not good for young fruit trees. The soil for 18 inches round the stems should be kept free from grass, and mulched with a little short manure. This may be done now to enrich the soil and induce a better growth next season, and no weeds should grow around them in the summer. The Pear tree 10 feet high against a wall may be moved, provided the roots are fibrous and near the stem in goodly numbers, but if the roots are few and strong the probability is the tree would be so checked in removal as to be of very little value. The branches of fruit trees on walls should be as near as is practicable 1 foot apart, but of course some will be nearer in certain parts, especially when fan-training is followed.

Club-root in Tomatoes (Anxious).—The club-root is presumably caused by eelworm, not slime-fungus. The proportions given by Mr. W. Dyke of basic slag 2 lbs., and kainit 12 ozs., were for early winter application, and then (say now) mixing with the soil, and leaving until planting-out in the spring. This he found a thorough disinfectant of the soil from eelworm, as stated in the *Journal of Horticulture*, and it would, no doubt, answer in other cases. We have found 1 lb. of quicklime and $\frac{1}{2}$ lb. of kainit per square yard sufficient to clear infested borders from the pest, applying in the winter time, and forking in after it has lain a day or two on the surface. The soil should be left at least six weeks before placing plants in it. Sulphate of iron at the rate of 15 to 20 lbs., after the double amount of lime, per perch, not having proved effectual, there would be no harm in using the remedy propounded by Mr. W. Dyke of basic slag and kainit, but it must be applied in advance of planting the Tomatoes. Our opinion of seaweed ashes for Tomato borders is that the material is excellent, from containing potash and soda salts, but the rate you have used it per perch (30 $\frac{1}{2}$ square yards) is, we consider, excessive. We have not used more than a peck at one time, whereas you apply a bushel. A peck at planting out time or just before, and another when the first trusses of fruit are set, answers well. As regards Tomato root disease and its cure, Mr. Abbey, experimentalist and investigator, holds strongly the opinion that there is no pest but what may be overcome by man. Boiling water he describes as the simplest and most effective of all disinfectants of eelworm-infested soil, and where it fails it is because the pests have not been reached by it. He also says it is the same with other preventives or disinfectants—they are not thorough in application; and is further convinced that soluble phenyle, Jeyes' fluid, lysol, izal, and other preparations derived from coal tar, are efficacious against eelworm or club-root caused by it, in the proportions of 1 in 160, or 1 fluid ounce to a gallon of soft water as a disinfectant before planting, and 1 in 960, or 1 fluid ounce to 6 gallons of rain water during growth for checking the pest and supporting the plants. We have not had occasion to try these preparations, but have many times proved the value of hot water to plant enemies within the soil and above it.

Forcing Figs (E. W. G.).—We do not know of anything of the kind you mention. Seasonable information is given every few weeks in our "Work for the Week" columns, and a more comprehensive article will appear in due course. If you require specific information on any particular point we shall be glad to supply it. The subject is treated in the "Fruit-Growers' Guide" (Virtue & Co., Ltd.), but the work is too costly for most people to purchase for the purpose of obtaining information on one kind of fruit only.

The Heaviest Bunch of Grapes (Anxious).—The heaviest bunch of Grapes on record weighed 25 lbs. 4 ozs., and was exhibited some years ago at Elinburgh by Mr. Curror of Eskbank; variety Trabbiano. The late Mr. Dickson of Arkleton exhibited at the same time a bunch of either the White Nice or Syrian weighing 25 lbs. 15 ozs. Mr. Roberts of Charleville, Ireland, exhibited Gros Guillaume weighing 23 lbs. 5 ozs., and Mr. Hunter, Lambton Court, has the honour of growing the heaviest bunch of Black Hamburgh known—21 lbs. 12 ozs.

Violet Leaves Spotted (W. W.).—The leaves are affected by the Violet disease fungus, *Peronospora Violæ*, a near relation to the Lettuce leaf mould. The fungus or disease appears in the form of small rounded brown spots on the leaves, and these spread from the centre, causing the leaves to shrivel. The attack is said to arise from neglect or improper handling, but we have found it more pronounced in some seasons and weather influences than others when there has been no cultural neglect. Keeping the plants too close under glass favours the parasite, as also does the crowding of the plants and failing to remove bad leaves promptly. The remedies and preventives prescribed are to burn all badly infested plants, and not to use the same soil again for Violets. We find growing the plants thinly in firm soil, giving plenty of air, removing affected leaves, and dusting occasionally with quicklime (air-slaked for preference) answer well, especially when the lime is mixed with an equal quantity of dust charcoal.

Brassicas Diseased (R., Surrey).—The plants are affected by a dry gangrene caused by a parasitic micro-organism, which causes browning or "brunure" in Vine shoots, Tomato leaves, and also those of Potatoes and other plants. It also affects Potato tubers, causing a dry gangrene often mistaken for scab. The case differs from club root or finger and toe, otherwise the appearance at the top of the affected plants is very similar. The parasite has been named by botanists *Pseudocommis vitis*, and is often followed by slime fungus, *Plasmodiophora Brassicæ*, which causes the roots to become congealed into a swollen putrid mass. "Ragged Jacks," and other smooth, soft-leaved kinds, are the most liable to succumb to the dry gangrene, while the harder leaves, such as of Curled Kales, may escape. A good preventive is best chalk lime, freshly burned, placed in small heaps on the ground, covered with a little soil, and when fallen, spread evenly, and shortly afterwards well mixed through the soil by careful digging. Ten tons per acre are used in fields. In gardens, 1 $\frac{1}{4}$ cwt. per rod is a proper dressing, using during a dry time in the autumn or early spring, always some little time in advance of cropping. Where freshly made gas lime can be had, 3 to 5 tons per acre, 3 to 5 stones per rod, may be applied, spreading evenly, and leaving on the surface about a month, then turning under—in fields with the plough, in gardens with forks. This also is best applied in a dry time during the autumn or early winter, so that its poisonous properties may be modified before cropping time in the spring. If not used until the latter period only half the amounts quoted may be applied, and must lie on the surface a fortnight or three weeks before being turned under, cropping not taking place for a similar time afterwards.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (H. S.).—Yorkshire Greening. (Cedo Nulli).—1. rotten, perhaps Gansel's Bergamot; 2. malformed by fungus, possibly Nouvelle Fulvie; 3. Blenheim Pippin; 4. Van Mons Leon Leclerc; 5. Yorkshire Greening; 6. rotten, resembles Doyenné du Comice in shape and colour. (J. S.).—We regret your specimens cannot be named with certainty, and they appear to be the produce of exhausted trees that have all been gathered too early; A. Spencer's Favourite; c. resembles miniature Mère de Ménage; h. Hambledon Deux Ans; i. Pitmaston Pineapple; k. Golden Spire; q. Bergamotte Thonin. (J. W.).—1. Minchull Crab; 2. Horned Pearmain; 3. Court of Wiek; 4. Beauty of Kent. (Egham).—A splendid specimen of Hoary Morning. (W. Thomson).—Fruits which arrive within a day or two of our going to press can seldom be examined, and the names (if determined) published in the current issue. The No. 1 red Apple no one can name; it is probably a local seedling, and inferior. The other is possibly Golden Winter Pearmain; faulty in shape, and partially decayed.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*F. S. M.*).—1, *Choisya ternata*; 2, *Ceanothus Gloire de Versailles*; 3, *Libonia floribunda*; 4, *Cratægus pyracantha*; 5, *Selaginella denticulata*. (*S. A.*).—1, *Laurus nobilis*; 2, *Arbutus unedo*; 3, *Thuopsis dolabrata*; 4, *Cupressus Lawsoniana*; 5, *Retinospora filicoides*; 6, *R. ericoides*. (*R. H.*).—1, *Carpinus betulus*; 2, *Ligustrum lucidum*. (*Idem*).—*Iris foetidissima*. (*M. J.*).—*Zygopetalum Mackayi*. (*H. T., Bolton*).—*Salisburia adiantifolia*, the Maidenhair Tree.

COVENT GARDEN MARKET.—Nov. 30th.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve ...	1	3 to 3 6	Lemons, case ...	30	0 to 60 0
Cobs ...	5	0 55 0	St. Michael's Pines, each	2	6 5 0
Grapes, lb. ...	0	10 1 6			

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0	0 to 0 0	Mustard and Cress, punnet	0	2 to 0 4
Beans, $\frac{1}{2}$ sieve ...	0	0 0 0	Onions, bushel ...	3	6 4 0
Beet, Red, doz. ...	1	0 0 0	Parsley, doz. bnchs. ...	2	0 3 0
Carrots, bunch ...	0	3 0 4	Parsnips, doz. ...	1	0 0 0
Cauliflowers, doz. ...	2	0 3 0	Potatoes, cwt. ...	2	0 4 0
Celery, bundle ...	1	0 0 0	Salsafy, bundle ...	1	0 0 0
Coleworts, doz. bnchs. ...	2	0 4 0	Scorzonera, bundle ...	1	6 0 0
Cucumbers ...	0	4 0 8	Seakale, basket ...	1	6 1 0
Endive, doz. ...	1	3 1 6	Shallots, lb. ...	0	3 0 0
Herbs, bunch ...	0	3 0 0	Spinach, pad ...	0	0 0 0
Leeks, bunch ...	0	2 0 0	Sprouts, $\frac{1}{2}$ sieve ...	1	6 1 9
Lettuce, doz. ...	1	3 0 0	Tomatoes, lb. ...	0	4 0 9
Mushrooms, lb. ...	0	6 8	Turnips, bunch ...	0	3 0 4

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6	0 to 36 0	Ficus elastica, each ...	1	0 to 7 0
Aspidistra, doz. ...	18	0 36 0	Foliage plants, var., each	1	0 5 0
Aspidistra, specimen ...	5	0 10 6	Lilium Harrisii, doz. ...	12	0 18 0
Erotons, doz. ...	18	0 24 0	Lycopodiums, doz. ...	3	0 4 0
Dracæna, var., doz. ...	12	0 30 0	Marguerite Daisy, doz. ...	6	0 9 0
Dracæna viridis, doz. ...	9	0 18 0	Myrtles, doz. ...	6	0 9 0
Erica various, doz. ...	9	0 24 0	Palms, in var., each ...	1	0 15 0
Euonymus, var., doz. ...	6	0 18 0	„ specimens ...	21	0 63 0
Evergreens, var., doz. ...	4	0 18 0	Pelargoniums, scarlet, doz.	4	0 6 0
Ferns, var., doz. ...	4	0 18 0	„ „ „ ...	8	0 10 0
„ small, 100 ...	4	0 8 0	Solanums, doz. ...	6	0 12 0

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch ...	2	0 to 2 6	Marguerites, doz. bnchs.	2	0 to 3 0
Bouvardias, bunch ...	0	4 0 6	Maidenhair Fern, doz.		
Carnations, 12 blooms ...	1	0 2 0	bnchs. ...	4	0 6 0
Chrysanthemums, per bh.	0	3 2 0	Mignonette, doz. bnchs. ...	1	6 3 0
„ specimen			Narcissus, doz. bnchs. ...	5	0 6 0
„ blooms, per doz.	2	0 5 0	Orchids, var., doz. blooms	1	6 9 0
Eucharis, doz. ...	3	0 4 0	Pelargoniums, doz. bnchs.	4	0 6 0
Gardenias, doz. ...	1	0 2 0	Roses (indoor), doz. ...	2	0 4 0
Geranium, scarlet, doz.			„ Red, doz. ...	2	0 0 0
bnchs. ...	0	6 0 9	„ Tea, white, doz. ...	2	0 3 0
Lapageria (white) ...	1	6 2 0	„ Yellow, doz. (Perles)	2	0 3 0
„ (red) ...	1	0 1 3	„ Safrano (English) doz.	1	0 2 0
Lilium lancifolium, white	3	0 4 0	„ Pink, doz. ...	2	0 4 0
„ „ pink	3	0 4 0	Smilax, bunch ...	1	6 2 6
„ longiflorum, 12 blooms	6	0 8 0	Violets ...	0	9 2 6
Lilac, bunch ...	5	0 6 0	„ Parme, bunch ...	2	5 3 0
Lily of the Valley, 12 sprays	0	9 1 6			

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 175, Victoria Street, S.W.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary*, Mr. A. F. Barron, The Royal Gardeners' Orphan Fund, Chiswick, W.

TRADE CATALOGUES RECEIVED.

W. Clibran & Son, Altrincham.—*Chrysanthemums*.
Devon Chrysanthemum Nursery, Teignmouth.—*Chrysanthemums*.
Letellier fils et Cie, Caen, France.—*Roses, Trees, and Shrubs*.
W. Paul & Son, Waltham Cross.—*New Roses*.
J. Russell, Richmond.—*Trees and Shrubs*.



AQUA PURA.

WE are all so inclined to let things slide—that is, the majority of us! Of course, we have members who are always up and doing, and who can never rest unless they be righting wrongs and redressing grievances. These people are useful, but at times they appear to the majority of us to be rather nuisances than otherwise. Well, it takes all kinds to make a world, and there must be moving spirits as well as spirits to move.

About letting things go. Nothing is easier—to-morrow always seems the more appropriate time. Money with most of us is “tight,” as they say in the City, and we would fain keep hold of the bit we have rather than spend it on something that may not directly benefit ourselves. A great want has suddenly come home to most of us. We have lived for years in the placid enjoyment of full water privileges—that is, we had water and to spare; indeed, at times we had rather too much of “Jupiter Pluvius”—crops suffered, hay was “ungettable,” pastures were swashy and poor keep, and watercourses were full to overflowing.

It has been said weather goes in cycles; it almost seems like it, and we are now “dreeing our weird” by going through a course, not only of dry summers (which we can understand), but dry winters too (which we cannot understand).

In tropical countries—at least, in those with a paternal government—every care is taken to mitigate the asperities of the climate. Here we leave things rather to chance, making sure that in some way or other we shall be provided for. This summer has been a time of great scarcity, in town and country alike. No rain last winter to speak of; no snowfall, not even enough to make a decent snowball or two. No wonder the springs gave up early and pumps and ponds were dry. We were cleaning out ponds and watercourses at a time when both are usually full.

It is a serious question for the household, and a serious question for the stock farmer. Leading water is a slow and expensive process, and there is always a danger that some animals may come off with a short supply. There is another great nuisance attendant on a dry summer. In those parts of the country—low lying parts, such as carrs and marshes, where the divisional lines are not hedges but drains—it is almost impossible to keep stock at home; they not only roam far and wide, but are apt to get bogged in muddy bottoms, and it is no joke bringing a heavy bullock or a young cart horse to *terra firma* again.

We cannot do much to correct this evil—for an evil it is; but we may do more than we do towards providing a good water supply to the homesteads and houses of the village. Take homesteads first. How many of them are supplied with a really good cistern? We do not mean a thing only the size of several paraffin casks, but a good room underground, well cemented, and properly fed by spouting from all the buildings, whether dwelling house, stables, cowsheds, covered yards, or even piggeries.

Of course the spouting is a large initial expense, but have none of our readers gone round yards on a wet day with water dripping from every roof, injuring the buildings, sapping the foundations, and deteriorating the quality of the manure? We have seen the like, and from our hearts pitied the poor garth man who has to continue his

work of foddering and cleaning stock in saturated clothes, and in boots that never really get dry. It is wonderful what an immense quantity of water (soft) may be collected in the course of a year where a good (unleakable) cistern exists, and where the spouting is perfect. And the value of such water is inestimable. It is free from contamination (if the roofs are swept occasionally), and is also free from various salts and minerals held in solution which so often exist in spring water.

Shallow wells are a great source of danger, and now that steam and wind power can be utilised at such little expense there is no excuse for their existence. Steam and wind do not mind the demand made on them for hauling up water from a greater depth.

We have lately seen two excellent examples of what we may call wind haulage. The water was there, but at such a depth that the work was cruel to man power. The windmill is erected; the supply is constant, and the expense by no means extravagant.

We have been much interested in reading the account of Lord Spencer's scheme for supplying the villages of Great and Little Brington in Northamptonshire with water by means of wind-power pumps. The inhabitants number about 600, and the stock in the fields in summer require about 1000 gallons per day. By means of this pump and a reservoir this water is easily supplied, and with a great reserve to meet any possible deficit. The windmill works day and night, and so takes advantage of the slightest breeze. When there is a reserve of 120,000 gallons in the reservoir the minds of all connected with the scheme must be very easy.

The cost of supervision comes to 1s. 6d. per week, and a small charge of 2d. per week for cottages and £2 per annum for farm and other houses, to which water is laid on, will help to pay the interest on the money sunk in the scheme. The cost of well-sinking, the reservoir, the wind engine, the iron piping required, amounted to £2250, and the writer goes on to state that by enlarging the diameter of the wind engine the pumping capacity could be so increased as to afford a water supply to at least two adjoining villages.

We read this in the Royal Agricultural Society's Journal for June, 1897; and in the number of the same publication for the September of this year we read of a similar experiment—and a successful one, too—on the estate of Lord Yarborough, a Lincolnshire magnate. To those who know the high wolds, and the immense difficulty there is often experienced there for want of an adequate water supply, the subject is of the greatest interest. Indeed, we say where is it not of interest? and what has been done in one place might easily be tried in another.

On the Limber estate in Lincolnshire an engine has been erected at the cost of £78 11s. 6d. for use in case the wind supply fails. The reservoir in this case has not the capacity of that in Brington parish. We do not quite know how far the Parish Councils may reach, but we do think some water scheme on the lines indicated might be a never-dying memorial to the fathers of many a parish. In the Limber case the expenses are met and interest on money found by a 4d. rate.

A little private enterprise on the part of the landowner, with a rate laid by the Parish Council, and the deed would be done. We have very little doubt that after the scheme has been tried in one or two places experience will be gained—an experience that would most probably lessen the expenses of construction, though expenses of working could hardly be made smaller.

P.S.—Since writing the above we read the following in a well-known agricultural paper:—"Up to some weeks ago, and for many years, I have had to cart water for my cows and threshing-engine, often 1500 gallons per day. Now, thanks to my landlord, I have got one of Roberts' windmills. It works well, and keeps me more than supplied.—B."

"B." is a personal friend, and we know what his gain is.

WORK ON THE HOME FARM.

Farmers who hold a heavy head of cattle would do well to make safe their moderate crop of Swedes by lifting and storing them either in large or small heaps. We prefer to store our Swedes in one big long heap. They are easier to protect from frost; for a few loads of stubble will go much further on one large pile than on a number of small ones.

Another advantage is that the land from which they have been drawn

can be all ploughed and left open to the influence of frost, which cannot be done when there are numerous heaps of roots left on the land.

Mangold and Potato pies may now be entirely closed; the natural sweat or heating will now have subsided, and soil must be put all over the heaps, thoroughly covering every part.

Cattle are now all well housed, and are in a very healthy thriving state. There being plenty of straw this year, care must be taken that the animals are made comfortable, for though the north country proverb that "fat goes in at the mouth" may be quite true, it is also necessary that no waste of heat should occur if it can be helped, for heat and fat are synonymous as regards feeding animals. Coals being cheap it is an open question, and one worth considering, whether the artificial heating of cow-byres might not prove an economical success in very cold weather.

The snow-storm over a great extent of country should warn us that winter is near, and that possibly in a week or two the soil may be frost-bound and ploughing impossible. One winter severe frost set in on December 6th, and on another occasion December 12th, so we must not delay longer any ploughing that is still to do.

We have heavily mucked a piece of lea for next year's Potato crop; this must be ploughed down before Christmas, or rather before winter; so with two other fallow fields still to plough, we shall not be short of work.

An accumulation of horse manure has been removed and placed upon a large heap of twitch and stubble; the whole will shortly be turned and thoroughly mixed. The heat of the muck should help the decomposition of the other matter and make it both a safe and useful compost for Swedes next summer.

OUR LETTER BOX.

Bacon-curing (*Morning Cloud*).—We answer your letter, though you have not complied with our stipulations in withholding your name and address. (See page 427.) A good old farmhouse style of bacon-curing which has been practised for generations is this: When the meat is properly cooled and cut into suitable pieces (we always divide the sides, taking the shoulders well off), it is placed in a large salting tub, on the bottom of which is laid a layer of salt and saltpetre. The meat is covered entirely with the same, carefully rubbed in to every depression. The meat should be turned and rubbed every few days for at least three weeks, when it is next wiped clean and hung in a kitchen to dry. For a 30 stone pig we use 2½ stones salt and 1 lb. of saltpetre. We could have given you a reference to a description of bacon-curing in factories had you sent your address, and we will give it still if you like to send a stamped directed envelope for the purpose.

ROOT COMPETITION.—The competition held annually in various parts of the country in Swedes and Mangolds by Messrs. Webb & Sons of Wordsley, has this year been very successful, and brought to light some heavy crops. Taking the average of the weight of Swedes in the thirteen districts, we find a yield of about 33 tons per acre, the record being 41 tons 17 cwt. per acre, produced by Mr. W. Clark, Shawhill, Monkton, Ayr, N.B. The Mangolds averaged 55½ tons per acre, with 75 tons 13 cwt. as the heaviest crop. This was grown by Mr. W. Baker, Forest Farm, Whitchurch, Cardiff.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1898. November.		Barometer at 32°, and Sea Level	Hygrometer		Direc- tion of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Tempera- ture.		
			Dry.	Wet.			Max.	Min.	In Sun	On Grass	
		inches	deg.	deg.		deg.	deg.	deg.	deg.	inches	
Sunday	20	30.179	45.8	43.5	W.	48.0	49.3	42.8	51.8	33.0	0.051
Monday	21	30.088	47.1	46.9	E.	47.8	47.2	45.4	49.0	36.8	0.340
Tuesday	22	30.066	35.2	32.9	N.	46.1	40.1	34.9	64.8	30.0	0.012
Wednesday	23	29.434	38.3	37.0	S.E.	43.8	41.1	27.3	41.4	21.9	0.127
Thursday	24	28.978	40.7	40.1	E.	43.6	46.1	36.8	46.6	35.9	0.243
Friday	25	28.824	45.7	45.1	S.	44.3	50.3	41.8	66.9	37.1	0.556
Saturday	26	28.998	43.6	43.4	N.E.	44.7	45.5	41.2	47.5	33.0	0.095
		29.510	42.3	41.3		45.5	45.7	38.6	52.6	32.5	1.424

REMARKS.

20th.—Overcast throughout, with spots of rain in morning.
 21st.—Overcast early; steady rain from 10 A.M. to 5.30 P.M.; windy, clear night.
 22nd.—Bright sun from sunrise to sunset; clear, cold night.
 23rd.—Dull, with almost continuous slight rain from early morning to 5 P.M., and damp after.
 24th.—Rain from 1 A.M. to 6 A.M., dull and damp after, with frequent slight rain.
 25th.—Rainy from 1 A.M. to 5 A.M., and from 7.15 A.M. to 11 A.M.; generally sunny from 11 A.M. to 2 P.M., then alternate showers and clear skies.
 26th.—Heavy rain till 1 A.M., and almost incessant slight rain till 9 P.M.
 A wet and cold week, with low barometer during the last three days.—G. J. SYMONS.

THREE GOLD MEDALS FOR ROSES IN 1898.



WM. PAUL & SON,

Rose Growers by Appointment to Her Majesty the Queen; Tree, Plant, Bulb, and Seed Merchants,

WALTHAM CROSS, HERTS,

RESPECTFULLY SOLICIT ORDERS FOR THEIR UNRIVALLED STOCK OF

ROSES IN ALL FORMS.

STANDARDS from 18/- doz.

HALF STANDARDS from 15/- doz.

DWARF STANDARDS from 10/- doz.

DWARFS or BUSHES from 6/- doz.

CLIMBERS from 6/- doz.

ROSES IN POTS from 10/6 doz.

They also beg to call attention to their extensive collections of FRUIT TREES, HARDY TREES and SHRUBS, RHODODENDRONS, HERBACEOUS PLANTS, CLIMBING PLANTS, CAMELLIAS and AZALEAS, and BULBS, all in the best possible condition for autumn delivery.

PRICED LISTS POST FREE ON APPLICATION.

NOTE.—All Nursery Stock offered by WM. PAUL & SON is particularly fine this season, the warm dry summer having produced exceptionally fine growths on the cool, moist, loamy soil of which their Nurseries consist.

IMPORTANT.—OBSERVE CHRISTIAN NAME AND ADDRESS,

WM. PAUL & SON, WALTHAM CROSS, HERTS

SPECIAL OFFER.

Spiraea Japonica. Extra large clumps
2/6 per doz.

Spiraea Palmata. Beautiful pink
variety, 3/6 per doz.

Lilium Lancifolium, rubrum
and roseum, 3/6 per doz.

Gladiolus Brenchleyensis,
very scarce, 9d., 1/- doz.

Gladiolus, The Bride.
2/6 per 100.

Lilium Auratum.
Expected shortly

Will be very
scarce this
season.

ORDER
EARLY

Send for
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Special Offer
at once,
post free.

Cannas, mixed from
choicest named varieties,
4/- per doz.

The Cheapest House for every
description of BULBS and GARDEN
SUNDRIES,

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BULB GROWERS,

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CLEAN HEALTHY PLANTS AT LOW PRICES.

Always worth a visit of inspection. Kindly send for Catalogue.

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PLANTING SEASON.

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Forest, Fruit,

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Trees & Plants

Evergreens,

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Stocks quite Unequalled for
"QUALITY," "VARIETY," & "EXTENT."

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Invite intending Planters to inspect their unrivalled
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Send for Catalogues and List of Public and Private
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ELVASTON NURSERIES, BORROWASH, DERBY.

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AMERICAN NURSERY,

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Beg to call attention to their magnificent stock of

HARDY RHODODENDRONS, AZALEAS,

CONIFERS, EVERGREENS, DECIDUOUS TREES, &c.

Intending Planters would do well to Inspect the Nurseries.

CATALOGUES ON APPLICATION



Journal of Horticulture.

THURSDAY, DECEMBER 8, 1898.

THE JOURNAL OF HORTICULTURE can be obtained from the Office, 12, Mitre Court Chambers, Fleet St., London, post free for a Quarter, 3/9. Editorial communications must be addressed to 8, Rose Hill Rd., Wandsworth, S.W.

THE UNIT IN HORTICULTURE.

THE value of the unit in gardening is considerable. As a quantity it ought to be evident, though I am inclined to think it is generally unrecognised. Yet in our daily work the unit fills a large place. Let us endeavour to locate it. Everyone cognisant of the history of gardening in England must acknowledge it to be the truth that the past fifty years, culminating, say, in the last ten or fifteen, have seen British gardening at a level far higher than it had hitherto reached. The reason for this is not far to seek. Individual gardeners have taken up some special subject, mastered it, and scattered their knowledge far and wide through the agency of the Press.

Exhibiting has also been a most effective method of instruction, inasmuch as it incites emulation and the desire to "go one better." This desire can only, as a rule, be gratified by securing varieties possessing qualities superior to the old. These better forms along with improved methods of culture are more or less rapidly diffused among the gardening community, and the unit in horticulture, so far as gardeners are concerned, becomes potential. Should someone declare that gardeners may still be found standing on the old platform indifferent to, and unaffected by, this leavening process, may we not with truth reply that such declaration in no wise affects the argument, seeing that such men can hardly be denominated units, and not improbably are merely cyphers?

In cultural matters success of the highest order is invariably the result of working from a high-class unit. The finest Grapes are those which possess the largest and best finished berries, every one of which is equal in every respect to the others. And I may be allowed to add that many otherwise good Grapes have to take an inferior place at exhibitions chiefly because too many berries were left on the bunches when thinning. About thirty years ago, or perhaps earlier, Mr. Henderson exhibited Black Hamburgs at the Royal Botanic exhibitions, which brought distinction solely on account of the enormous and uniformly sized berries of which the otherwise commonplace bunches were composed.

Mr. Denholm, a contemporary of Mr. Henderson, achieved a like success with Muscats.

From the commercial point of view the man whose unit is "big" and maintained, is equally successful, and he receives from two to three times as much for his Grapes as another whose sole idea is to load his Vines with as many bunches with small or variously sized berries as he considers it possible for them to carry. The Vines themselves prove the former to be the principle, inasmuch as while those of the last named are worn out quickly, the Vines of the other continue for many years in a condition of fruitful vigour.

With hardy fruits exactly the same thing occurs. Trees crowded with branches bear with less regularity than those which are sufficiently thin, and the fruit itself, when thinned with judgment, increases enormously in size, quality, and value. So also with vegetables. If, for instance, every Onion, Celery, or Parsley plant were treated as a unit, and cultivating as if it alone were the only one needing care, a superior aggregate of the whole would be certain to result. No vegetable shows in so marked a manner the value of treating each plant as a unit as does the Pea. We have reached a position when large Peas of the finest quality may be had during the whole of the Pea season; but the seeds must not be thickly sown. If one is of a mercenary turn of mind each Pea may have a space in the row of 3 inches, though this distance may be doubled with increasing gain. The Pea men have provided us with a large unit, and it is undoubtedly the place of the gardener not to lower it by mere rule of thumb methods, as represented in the jungle system of weakening the items.

Let us next take plants grown in pots for decorative purposes. To see these cultivated as they ought to be, we must visit one or more of the large trade establishments where certain kinds are produced by tens of thousands. One plant is a sample of the lot, and the lot is perfect. If we inquire of the courteous manager how it is all accomplished, we find that each plant of the thousands is treated as a unit. No matter whether the particular plant is propagated from seed or from cuttings, in all its stages of growth it receives attention of the nature it requires, and at the correct time. Whoever is successful in an eminent degree in the cultivation of any plant works on the same principle. Seedlings or cuttings never choke each other. Boxed plants are potted separately before the stage of stint has arrived. They receive water when it is due; are fed directly food is needed; and never forgotten!

And flowers? The fact is well known, if not always acted upon, that a flower may be developed to an enormous degree, and simply by dividing it into units. The unit of a flower, so far as a florist is concerned, is the petal; and the fact is also worth the consideration of every gardener who desires the best possible flowers. Let me hasten to say there are many exceptions to the strict and fast rules followed by the florist proper, but the principle, nevertheless, holds good. Most gardeners find time to cultivate Chrysanthemums on the lines laid down by the florist, but there is no reason why analogous treatment should not be extended to other kinds, and the plant that produces them grown with thinned-out stems, and the flowers where necessary disbudded.

I have endeavoured to demonstrate the utility of working from a high-class unit in general gardening. In preparing produce for exhibition in every stage it is invaluable. In the case of flowers, where the judgment is reliable, the petal, consciously or unconsciously, has been the unit from which the judge has worked. A constant failing in uninstructed exhibitors is the manner they give themselves away by neglecting to remove petals which are inferior to the others that make up a flower. It is the superior alone that counts, while that which is inferior detracts from the value of the flower as a whole, and what is out of sight or imperfectly displayed either does not count or else lowers the value. A few bad or small berries in Grapes otherwise good have also a bad effect. And so in like manner have small fruits among others of high quality, or a huge unshapely Potato placed in a dish to compensate for the deficiency of the remaining too small tubers. Their inferiority in size as a unit is greatly emphasised by the addition, which is in itself a second unit of inferiority—coarseness; as if two bads could make one good and win a prize.—A NORTHERN GARDENER.

EXPERIENCE WITH MANURES.

GARDENERS as a body owe you thanks for the outspoken remarks which follow the notes on garden manures by "A. D." (page 411). Those of us who have experimented with manures, and are still using them, and, in a manner, still experimenting with them, will agree with the tone of the whole article. Chemical manures are an undoubted aid, but they are not everything, and I am sure those who have employed them the longest will be the first to say they can never take the place of farmyard manure; nor do they save the cultivator in tillage, because, as a matter of fact, it is only in well-tilled ground that the full benefit of their application is secured.

Regarding "A. D.'s" remarks, will you kindly permit me space for a few "thoughts?" And as a preface I may note that we seem to have advanced but slightly since Ville placed the question of artificial manuring on a basis such as any intelligent man could work from. His reasonings and assumptions were by no manner of means all alike correct, but he gave definite expression to a few facts about plants and their food which were simply invaluable. Science appears to be moving in the direction from which it started off at a tangent some twenty years ago; but, in the meantime, according to "A. D.," how utterly helpless must it be!

I see no reason why it is not feasible for gardeners to experiment with manures. Consciously or unconsciously they are obliged to do so. That as a body they should be expected to go systematically into the question is vain. It is only here and there that gardeners can be found capable of doing so. A man must either be trained or train himself to systematise, and those who have so qualified themselves are undoubtedly in a position to direct work and catch opportunities that the untrained cannot accomplish. It is in this way that a gardener finds the value of "artificial." He works from an ascertained point, or at least one that has been said to have been ascertained, and he is able to eliminate that which is unnecessary, as well as to ascertain to a nicety that which is helpful, and to make use of it in the manner that best promotes the end he has in view. Anyone who has a garden in charge is surely capable of discovering the potency of any manure; in fact, nothing but this ability has rendered the sale of proprietary manures so universal. Though expensive, if they are really efficient, as I know some of them to be, their cost is not so great as to prove a drawback to their employment. They have indeed helped many a gardener over a stile.

I have already, some years ago, affirmed in "our Journal" that garden ground in good condition requires no addition of potash. I have experimented with potassium chloride, potassium nitrate, and potassium sulphate, and without exception they have proved of no value. "A. D.," the Editor, or anyone can ascertain whether this is a fact or not. All that is required is to cultivate the soil, deeply, if you please, but in any case let every clod turned over be pulverised into particles. If poor, mix with it a 6-inch layer of good manure from the farmyard, and the only artificials that may be required for the next three years will be phosphates or nitrates.

Phosphates are the most valuable of all artificial manures for the garden. I use both supers and slag, but prefer the former for most things. Superphosphate has the invaluable property, not only of being a plant food, but what is perhaps of more importance, it promotes root action, and either by this means, or by some other property it possesses, it enables the plant to cater for the food proper to its kind. As a rule superphosphate is best applied to the surface of the soil and hoed in; and the best time to apply is when the crop it is intended to succour is planted. It is wasteful to apply previous to winter. In our climate I find March and sometimes April to be sufficiently early. In these months I use it largely as a surface dressing to Narcissi, Tulips, Iris, and other bulbs.

Another peculiarity of superphosphate I must not pass over is the remarkable power it possesses of carrying crops successfully through periods of drought such as we experienced during the past summer. I have often remarked it previously, but never with such marked effect as this year. One instance was furnished by the Celery crop; 2000 heads are required to supply the house from October to April, and it would have been nothing wonderful had a percentage bolted, but so far as I am aware of, not a single plant has been lost. But, what about water? The trenches were not once watered, only the plants in each as they were set out received a slight watering, and in the very driest time a 2-inch dressing of soil was laid among them. Without the surface dressing of supers applied previous to the planting of each trench I am confident the crop would either have suffered or recourse must have been had to watering. In this case, as in others, the crop was kept moving in the driest weather, and labour to an enormous extent saved in watering.

Then may I say that the desire to work with these manures on poor soils in order to test their value is of no cultural benefit. It is one of the curses clinging alike to poor gardening and to poor farming that so many persons culpably allow the soil to sink into an unfertile condition. Nothing whatever can be made of such farms and gardens

until they are taken in hand by a capable man, whose first operations are not to manure, but to thoroughly break up and cultivate.

Without referring to back volumes of the Journal I cannot say how many years it is since the application of superphosphates and sulphate of ammonia was first recommended by the writer as a manure suitable for pot plants. I mention the fact now merely to say that surface applications of the dry manure are better than dissolving the manure in water, and applying it by means of the watering-pot. The former method has not a little of elusiveness about it, nor is it possible that every, or perhaps any, plant receives the dose intended for it. On the other hand, dry manure dissolves slowly. We determine the amount given to each to a nicety, and, perhaps mechanically, it induces a freer root action.

As a last word at present, gardeners ought to beware of the follies of Science. I have seen Peas starved because it was thought they secured from the atmosphere sufficient nitrogenous food for their requirements. Two or three years ago there was quite a stir over the idea of sowing ground with artificially grown bacteria. This and the latest scheme of keeping fields for ever fertile by means of nitrate drawn from the atmosphere were received with "open mouths" by scientists and men who seem to be ever on the look out for obtaining maximum crops in the absence of thorough cultivation. They have yet to wait for the miracle!—R. P. BROTHERSTON.

APPLES WORTH GROWING.

WE have entered upon another season's planting by the fruit grower. Apples for culinary purposes are more sought after by the general public than any other fruit. The grandest show varieties are not necessarily the most profitable to plant. Dumelow's Seedling is considered one of the most valuable culinary Apples, but as a show Apple is not in the running with some others. Peasgood's Nonesuch is a magnificent Apple, but I doubt if it would pay as well to plant a thousand trees as it would to plant a similar number of Lane's Prince Albert, Stirling Castle, Ecklinville, Warner's King, Cox's Pomona, Bismarck, Gascoyne's Scarlet Seedling, and a few others. By all means plant for exhibition where time and space can be afforded for producing fine specimens for that purpose, but at the same time do not forget to cater for the general public.

Mammoth Apples are not what the great body of consumers prefer, but sound, clear, bright specimens from 5 to 7 ozs. in weight without any admixture of trash. There need be no fear about glutting the markets with first-class samples. I could sell a hundred times more than I have to dispose of if I had them in proper saleable form. When you have intimations from three different persons in one day that they would be glad to purchase all you have to dispose of if you will state a price it is almost as perplexing as when you cannot find a buyer. Last year (1897) I sold Cox's Orange Pippin to the shops at 4s. 6d. per stone, culinary Apples 2s. 6d. to 2s. 9d. per stone. My greatest trouble was in not having more to sell. The public would have to pay 1d. to 1d. per lb. more than I received, as retailers must have a profit, which they generally contrive to make on good fruit. I will name a few Apples such as they like to buy and I like growing for them.

COX'S POMONA.—If there is one Apple more valuable than another with me this is the one. It is good to look upon, good to eat, good to cook, an abundant cropper, but not quite so heavy in the basket as some varieties—that is, we require a larger bulk for, say, a stone than of such as Tower of Glamis or Mère de Ménage. Setting aside weight, Cox's Pomona is a splendid Yorkshire Apple, but rather liable to canker when grown on the starvation system.

LANE'S PRINCE ALBERT.—I consider this is one of the grandest culinary Apples we possess, and will keep to April and May. It is a good cooker and attractive fruit, with a flushed cheek. The tree is a heavy cropper, and requires generous feeding when there is a crop swelling, and I have not seen Prince Albert without one in any season.

BISMARCK.—Another grand variety. The tree is not only a heavy cropper but a healthy grower, and bears large richly coloured fruit. I have no doubt that 1000 trees each of Lane's Prince Albert and Bismarck planted on good land and well cared for, giving rich top-dressings and mulchings in the summer, would in no long time provide an industrious and intelligent worker with a good living.

GASCOYNE'S SCARLET SEEDLING.—This is my next favourite. The trees when the fruits are developing are the admiration of all holders. This Apple possesses size, colour, and flavour, also good keeping qualities. The tree is a beautiful grower and free cropper, but a little discretion is required when pruning, or many of the fruit buds are liable to be cut off, because a fine blossom bud is the terminal to a summer shoot in many cases. I do not, however, advise leaving long shoots with terminal fruit buds, if such shoots are not required for furnishing the tree, because heavy fruits at the end of long slender branches swing about with the wind, bruising and spoiling themselves

and others. By the exercise of judgment in pruning damage of that kind may be easily averted.

STIRLING CASTLE.—I find this a capital Apple for quick profit. Its one fault is in cropping so early and heavily, so much so that if the fruits are not freely thinned they are small, and the buds much weakened for the following year. Stirling Castle is a splendid kitchen Apple, so symmetrical that little waste occurs in paring, and is a good cooker. The tree must have several rich top-dressings with liquid manure in the growing season.

WARNER'S KING.—Very few growers, I think, can dispense with this Apple. The tree is a heavy cropper, and bears noble fruit, which cooks well. The trees grow strongly and carry grand foliage, but are rather prone to canker in some districts, perhaps because the strong wood is not always sufficiently matured.

SMALL'S ADMIRABLE.—So certain and free is this variety that it is not planted half so freely as it deserves to be in small gardens as well as larger ones. It is an excellent cooker, heavy cropper, and the tree grows very much like Lane's Prince Albert.

LORD DERBY.—This is another variety with money in it if well cultivated and highly fed with phosphatic, and less freely with nitrogenous manures, though it does not appear to succeed if left to take its chance in cold, strong soils, in some districts.

NORTHERN DUMPLING.—A heavy cropping variety bearing fine large conical fruit, which cooks excellently. The tree is a very healthy and upright grower, just the tree for a small garden.

NEW HAWTHORNDEN.—Many good points are combined in this Apple to recommend it to small, as well as large growers. The tree bears freely in a young state, while the fruits are large and of good cooking quality. If the trees are lightly cropped and well supplied with stimulants, the fruit can be grown to an enormous size for show purposes, but that is not a paying crop. New Hawthornden requires great care in pruning in its young stages of growth. The branches grow inwards, therefore care is requisite to prune to an outside bud, and even then the tree is better with some of the branches drawn outwards and tied to stakes driven into the ground for that purpose.

ECKLINVILLE.—I think no one can err in planting this Apple where there is room for a tree. It is a capital grower, heavy cropper, and with care I find the fruit will keep through October. Assistance at the roots is very desirable when the crop is swelling.

LORD GROSVENOR.—Certainly this is a first-class early kitchen Apple. The tree is a free grower and heavy cropper, the fruits attaining a marketable size almost sooner than any other, and, well developed, are very first-class cooking quality. I will mention one more to make a baker's dozen.

NEWTON WONDER.—A point to be mentioned in this Apple is that it is not difficult to keep till May. The tree is a good grower and free bearer of beautiful-looking fruit, which partakes of the flavour of Dumelow's Seedling, but trees of this are unfortunately prone to canker, while those of Newton Wonder are so free from any sign of the gangrenous infection.

The description I have given of the above thirteen varieties is from their behaviour in East Yorkshire. Perhaps in other parts of the country some of the varieties may prove less useful. I have grown many others, but for productiveness, good appearance, and affording a supply of good saleable fruit from July to May, I do not know thirteen better varieties for this part of the country which is not the best in the kingdom for Apples. Who can select and give reasons for a better dozen cooking Apples, apart from those named?

I have mentioned feeding when the crops are swelling. Though this is often important, I wish it to be understood that it is not the only time that feeding can be done with great advantage. It has been many times mentioned in the *Journal of Horticulture* that liquid manure may be given in the winter, when it can pass freely into the ground with great advantage to enfeebled fruit trees. I have proved by experience that it is safer to give liquid manure twice as strong in the winter as in the summer season. The present is a good time to give $\frac{1}{2}$ lb. of basic slag to the square yard to all fruit trees, dusting the slag 18 inches further than the branches extend all round the tree, and pointing in 2 or 3 inches deep; then spread 1 or 2 inches thick of half-decayed manure on the surface; the rains and snow will wash the nutriment down to the roots. If in addition 20 gallons of good liquid manure can be given to each free-bearing tree, so much the better for the fruit and trees in the following season.

Fruit trees, treated as mentioned, will bear a crop every year. I consider, and not without good reason, that trees treated as advised will carry their flowers more safely through a cold night with 5° or 6° of frost than will trees that are badly managed, or grown on the starvation system, with the temperature at or about freezing point.

I have a few notes on dessert Apples, and will send them to the Editor, in case they may be considered worth the paper that they are written on.—G. PICKER.

[Our practical correspondent had better send them along soon. If they are similar in character to his present series, the "paper on which they are written" will not go into the W.P.B., but into the hands of

the printers. We observe that Cox's Pomona is described as a "Yorkshire Apple." It was raised by Mr. Cox at Colnbrook Lawn, Slough, Bucks, who also raised Cox's Orange Pippin, and we are glad to hear that both succeed well in East Yorkshire.]



CATTLEYA BICOLOR.

To some forms of this pretty species the specific name is not applicable, as there are three distinct colours in it. The sepals and petals are a brownish or olive green, the most of the lip maroon, but with a broad and well defined margin of yellow or white. It is a very interesting species, quite distinct from the labiata groups and most of the tall-growing kinds. The shape of the blossoms is different from that of any other, and the labellum, instead of enfolding the column as is usual in the genus, is entirely below it.

It has been frequently imported, often in large masses, but has never become as popular as one might wish, for during the dull autumn months any Orchid with a bit of bright colouring is doubly acceptable. In habit it is like a weak *C. guttata*, but taller and with smaller stems, each of these being furnished with a pair of deep green leathery leaves, from between which the flower spikes issue. It is a free rooting and fairly vigorous plant when healthy, and no great difficulty will be found in its cultivation. The usual *Cattleya* house temperature suits it well, and the plants may be grown in equal parts of rough peat fibre and sphagnum moss, a plentiful sprinkling of broken crocks and charcoal being added to insure porosity.

The plants may be repotted at any time during spring, the most suitable period being when the young growths begin to emit roots. This will not be the same time always, and individual plants will vary in time of starting and flowering, so it is necessary to watch them somewhat closely. Frequent disturbance is wrong; but it is a still worse mistake to allow the roots to get into sour and close compost, this being either hard and solid when dry, or close and waterlogged when watered, both conditions being inimical. It is difficult to bring plants back to a healthy state when they have been allowed to get into this condition.

Still, the sooner it is gone about the better, for the longer they remain in this unsuitable material the weaker they become, and the more they suffer when disturbance takes place. Healthy, vigorous, and well-rooted plants take no harm from being disturbed, as they have the pseudo-bulbs plump, and can stand being kept a little dry afterwards; but when these are shrivelled for a start, the compost is apt to get too heavily watered, and this soon makes it as bad as ever again. Take out all decayed material and dead roots, but retain all that are likely to push into action. Finish the potting compost a little above the rims of the pots, and clip off all ragged ends to give a neat appearance.

As hinted above, rather less moisture than usual is advisable after repotting, but the roots soon push into the new compost, and then a full supply may be given, as new peat dries more rapidly than old. All through the growing season the moisture should be kept up, and light dewings must be given at all times when the young growth is not of a cup shape, this being formed by the advancing leaves on the apex of growth. The growth finished and the flowers past, a gradual lessening of the water supply may be allowed. This is partly on account of the decreased need of the plant, but also owing to the increased moisture in the external atmosphere at this end of the year.

At no time must the growth be allowed to shrivel for want of root moisture, but only enough to prevent this need be given during the dark days. A thorough cleaning annually should be afforded, the best time being directly after flowering. This must be repeated if insects are seen on the leaves or stems, one of the most frequent to attack this species being white scale. *C. bicolor* is by no means a new plant, having been more or less grown in collections since 1838, when it was sent home to Messrs. Loddiges of Hackney by their collector in Brazil. It has also been sent home with *C. Loddigesii*, and others from the neighbourhood of Rio de Janeiro.—H. R. R.

IRISH NOTES—GRAFTING APPLES.

EVEN if Ireland is described carefully there are few Englishmen who can realise what Ireland is really like, and it is not my province at the present time to attempt a description of any portion of that country.

Some Englishmen who visit the Sister Isle the first time look only at one side of the shield, and do not understand that even the western counties are capable of gigantic development. On this matter I may have more to say on some future occasion, and only intend in this paper to state some facts about fruit growing in the county of Roscommon.

I have a photograph of an Apple tree, handed to me by my friend Mr. W. Sayer, taken by the Rev. Mr. Smith, The Oaklands, Boyle, of one of his Apple trees, but unfortunately the photograph is not clear enough for figuring in the pages of the *Journal of Horticulture*. We may pass this particular tree by saying that it was grafted with Bramley's Seedling in 1895, and carried 16 pecks of fine fruit this year, some of the Apples weighing 22 ozs. Fruit grown in the neighbourhood has been forwarded to you, and I am informed Mr. Smith's fruit was even larger and better coloured.

This orchard of which I am writing came into the possession of Mr. Smith in the year 1894. It consisted of 3 acres, and contained about 140 trees. These trees were about eighty years of age, badly cankered, and covered from base to top with lichen and common mosses. They were picturesque in the extreme from the artist's point of view—indeed to all except those who love to see clean, strong, healthy trees that will bear fine well coloured fruit. This orchard now consists of 230 trees. Some are grown against walls which Mr. Smith has built since he came into possession; some are Apples, others Plums, and although I have nothing but praise for Mr. Smith and the efforts he has put forward, his wall training is largely open to improvement.

The first crop that Mr. Smith took from the old, practically worn-out orchard realised the sum of £4 10s. He therefore decided to either do away with the orchard or improve it. In the autumn of 1894 he bought 100 young trees of Bramley's Seedling and planted them. In the April of 1895 he cut down to within 3 or 4 feet of the ground 130 old trees. There was a cry amongst the neighbours that he had ruined the orchard and spoiling the country, but Mr. Smith passed through it all with equanimity, for he could see further ahead than the alarmists.

The 130 trees were crown-grafted with 1700 scions of Bramley's Seedling. Nearly all grew, and there is no mistaking the clean, healthy growth, of the sturdy and powerful-leaved variety on these various stocks. It would be interesting to know from Mr. Smith what the varieties were before the trees were cut down, and what induced him to change the trees into Bramley's? Did he take the hint from Rockingham? or did he know Bramley's on the wet, cold clay of Nottinghamshire?

It strikes me very forcibly that Bramley's Seedling was planted in Ireland before it became very generally known in England. There are trees in Ireland much older than I expected to find, and I hope before I write again to find out how long this variety has been planted at Rockingham, which is perhaps three miles from Mr. Smith's place, though only, perhaps, one mile outside the domain of that celebrated establishment.

To return to Mr. Smith's orchard. All, or nearly all the trees, have carried fine fruit this year, many of them yielding practically as much fruit as the tree to which I have alluded. Those trees that made very luxuriant growths did not bear so well; perhaps the stock, or the intermediate portion between the stock and scion, might account for this. Who can tell? The whole of the trees throughout that have been worked with Bramley's look promising for another year. They are clean, healthy, and full of fruit buds. Mr. Smith estimates that the orchard will be worth £100 per year. I believe it will, and more. Mr. Smith says the fruit of the tree to which I have alluded would realise about 12s. in Boyle. I have every reason to believe it would fetch considerably more. My friend, Mr. Sayer, was selling, from Rockingham, fruit that had fallen, for 16s. per hundredweight—the same variety.

Mr. Smith is trying if fruit farming will pay in Ireland, and his efforts are most commendable. He does all the grafting and pruning himself, so that the expenditure is not large. This being the first year the trees bore fruit, they realised more than would have been obtained from them in the form of inferior fruit over the period when he commenced these experiments, while the future is now full of promise. A local nurseryman laughed at Mr. Smith when he commenced grafting, and said it was the "wildest thing he ever heard of." It is Mr. Smith's turn to laugh now. He has succeeded beyond expectations. None of his fruit has been sold yet, and good prices can be obtained after Christmas. I understand the Apples will keep well in Ireland until April.

The orchard at Oaklands is an object lesson of no mean value, and

if the farmers of Ireland could be induced to plant Bramley's Seedling, that country, even the western counties, could be immensely developed. No American fruit can be produced better, larger, or more finely coloured than Bramley's can be grown in Ireland. I think the fruit forwarded to the Editor will bear me out in this statement. Let us see what he says on this matter.—WM. BARDNEY, *Osmaston Manor, Derby*.

[The Apples arrived, without any name, some days in advance of this communication. We wrote to Mr. Bardney to the effect that if they were not grand specimens of Bramley's Seedling, we suspected the variety was the result of a cross between it and Mère de Ménéage—this because of the remarkable colour of the fruit, some being dark crimson and others as bright as Cox's Pomona, but as large again as good average samples of this variety. The largest weighed 20½ ozs., the remainder averaging just under 1 lb. each. We have only once seen Bramley's to equal them in size and colour combined—namely, at one of the R.H.S. Crystal Palace shows—and these were the produce of young trees grown in the South of England. There are no transatlantic Apples in the London market at the present time to, in all points, equal these firm, fine, brilliant Bramley's from Ireland, nor do we expect to see them surpassed during the season. Mr. Smith is congratulated on his success, and he should call his residence Avallonia.

GRAFTING APPLES.

Mr. Bardney's reference to the cutting down the old trees "within 3 or 4 feet of the ground," suggested that he had possibly resorted to bole grafting in the same manner that we have successfully seen practised by Mr. Merryweather, the great Bramley man, at Southwell. We thereupon requested him to favour us with a sketch. He has done so, as in fig. 73, and further obliged with the following communication:—

Herewith I enclose you a sketch of the method of grafting to which you refer. In many cases I have found it very useful. You will notice I place the grafts very closely together, in fact not more than 1½ inch apart. The reason for putting them in so closely is to catch as much as possible of the first flow of sap, and thus prevent the bark or cortex from drying back while helping in the formation of the callus plate over the wound. As these grafts begin to develop and appear so crowded, as it is, one will

interfere with the proper growth of another, the weaker should be thinned out.

When the grafts commence growing I advise the tying round the tree, besides the inserted grafts, short canes to which the growths may be secured to prevent their being blown out by the wind, which they are liable to before they are established; these supports should be left say for three or four years.

With regard to your inquiry re the formation of the callus plate over the horizontal wound of the bole, this naturally always depends upon its diameter and the vigorous habit of the variety which is grafted upon it, but in all cases the precaution should be taken to cover the whole cut with grafting wax at the time of grafting.

Another plan of grafting moderately old trees which I have found very successful is that of cutting the tree off as before, giving the wound a protective covering, then waiting for the young adventitious shoots to develop below, and graft upon these when strong enough for the purpose, which will be, as a rule, in the following year. These grafts are not so liable to blow out with the wind, but the former method would probably be more satisfactory in old trees.

—H. MERRYWEATHER.

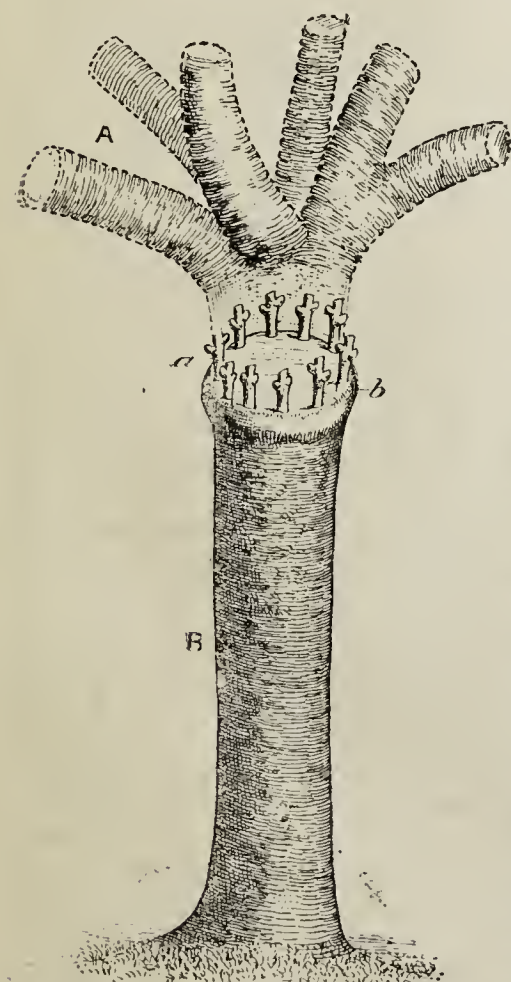


FIG. 73.—MR. MERRYWEATHER'S SYSTEM OF CROWN GRAFTING.

References.—A, the head of tree removed below the branches; B, stock or stem; a, scions or grafts; b, grafting wax.

We happen to have a sketch (fig. 74) showing the cut off cankered head from a moderate-sized Apple tree and grafting on the resulting young growths. It was sent by Mr. Abbey, not as a new, but useful method of changing an obviously worthless tree into a healthy one for bearing good fruit. We have practised it, and also inserted buds in the young stems in the summer—end of July or early August, instead of waiting till the spring for grafting. If the buds fail, grafting can be done all the same.

The stem of the tree shown appears free from canker, as stems often are when the heads are "eaten to death" by the fungus. We have, however, seen cankered stems grafted with Bramley's, and in the course of time completely covered by new cambium layers manufactured by the strong leafage and deposited till the ground was

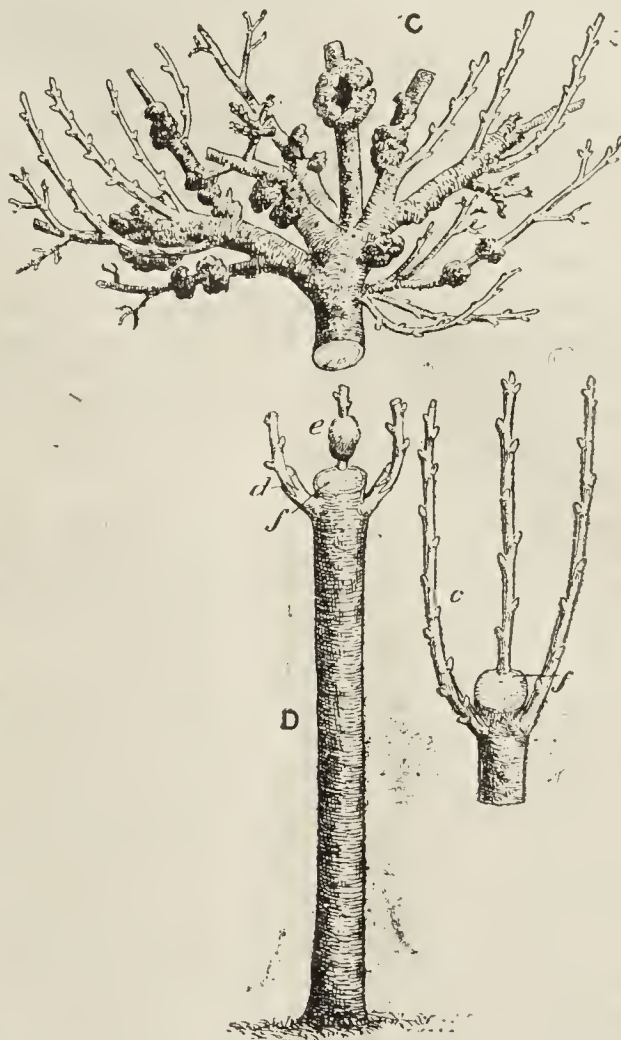


FIG. 74.—RE-GRAFTING ON YOUNG BRANCHES FROM STOCK OR STEM. References.—C, head of tree "eaten up" by canker fungus. D, healthy stem; c, growths the result of heading; d, whip or tongue grafted; e, elayed; f, crown of stock waxed.

reached. The old stems were thus encased with new matter—wood and bark—and a new lease of life given to the trees, on which not a speck of canker was seen for years, but fruit was borne in abundance. As a renovator of old Apple trees by grafting we know of no variety to excel, if equal, Bramley's Seedling. If Mr. Merryweather had discovered the full value of his favourite Applesoon enough he would, presumably, have had one of his sons named Bramley, though this would not have made any of them worthier men than they are.]

WINTER WARMTH AT SWANLEY.

A NEW ZONAL AND A LOVELY BEGONIA.

It was quite in accordance with the usual state of affairs that it should be pouring with rain when, a week or two ago, I called at Cannell's. The occurrence is chronic. Nevertheless, not only myself but everybody at the Home of Flowers was cheerful. Rain is wanted very badly; besides, winter flowers show up their capabilities for imparting warmth and brightness to the best advantage when external surroundings are at their worst. The Zonals were brilliant, making mockery of dulness and depression. Only a person in whom cantankerousness has developed into second nature could walk through the houses of them without a smile of satisfaction. The one which took my fancy most as an almost ideal winter Zonal was Mrs. Simpson, white with salmon centre. This graceful lady has perfect habit. But a dozen hardly a whit inferior could be made up by naming the following:—Alfred Tennyson, rosy red; Chaucer, salmon red; Conan Doyle, salmon; Comtesse de Morella, orange with white centre; Crabbe, rosy magenta; Ian Maclaren, salmon, lighter centre; King of Crimsons, crimson; Lord Reay, purple; Niagara, white; The Sirdar, the newest and best scarlet; and W. E. Corden, scarlet.

Apart from (or even including) these about the most beautiful plant in the nursery was Lemoine's Begonia Gloire de Lorraine. This has been referred to in the *Journal*, but no one has said enough in its praise yet. The colour—a delicate rose—is brilliant without being dazzling, the habit is splendid, and the floriferousness something to wonder at. The foreman was divided between admiration of the beauty of the flower and annoyance because, owing to its extreme fecundity of bloom, it is difficult to get stock from it. Like Impatiens Sultani, every little bit begins to bloom, and each of the myriad twigs pushed forth exhibits two expanded flowers and a bud. I should be sorry for the cantankerous man if he tried to keep up his character beside this exquisite plant.—W. PEA.



EVENTS OF THE WEEK.—To-day (Thursday) the annual general meeting and dinner of the National Rose Society are being held at the Hotel Windsor, Victoria Street, at 3.30 and 5.30 respectively. The last meeting of the Royal Horticultural Society for 1898 will be on Tuesday, December 13th, in the Drill Hall, James Street, Westminster.

— **WEATHER IN LONDON.**—Both Thursday and Friday of last week were mainly fine, though light showers came occasionally, and on the latter day the wind blew nearly a gale. Saturday was damp almost throughout the day, as was Sunday afternoon, the morning being bright, with sunshine. From Monday until the time of going to press on Wednesday rain almost without cessation.

— **WEATHER IN THE NORTH.**—Since the frost gave way on the 30th ult. the weather has been continuously wet, with high southerly and westerly winds. Sunday was particularly unpleasant from gusty wind and heavy rain. The latter continued throughout Monday. Tuesday morning was fair, mild, and dull.—B. D., *S. Perthshire*.

— **GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—The Reigate and District Chrysanthemum Society, through Mr. J. Brown, has forwarded a donation of £21 to the funds of this Institution.

— **ISLE OF WIGHT.**—The Isle of Wight Horticultural Improvement Association held its monthly meeting at the Newport Town Hall on Saturday last. Dr. J. Groves, B.A., J.P., presided. The audience was exceptionally large, members being present from all parts of the island. Many of these were no doubt attracted by the subject, as it was of paramount importance to every gardener—namely, "Birds"—which was ably dealt with by Mr. T. Gibbs, C.C. The lecture was made doubly interesting by the aid of limelight views. Several new members were elected. The customary votes of thanks were accorded the lecturer and others who had made the lecture such a great success.—S. H.

— **GARDEN REFUSE.**—When I called in upon a Surrey gardener recently, where there is an extensive garden that has to be manured without animal matter, the house being empty and no horses kept, I asked "how he managed to get such wonderfully fine crops of all things," and he said, "I will show you our manure heap." This I found outside of the garden, under a north wall and overhanging trees, and the accumulation of everything obtainable of vegetable nature was a huge one. No animal manure, no artificial manure, a deep sandy soil, and only natural manure such as decayed vegetable matter, yet splendid results. But then, how many gardeners are there who have to be dependant upon similar materials as manure? Chemical analysis on scientific basis would show this material deficient in phosphates and potash; root analysis shows that it is capable of remarkable results.—A. D.

— **DEATH OF MR. W. H. ROGERS.**—A nurseryman greatly esteemed by all who knew him has just passed away in the person of Alderman W. H. Rogers, J.P., of the well-known Red Lodge Nurseries, Southampton, who recently died at the advanced age of eighty-one, and was on Monday last buried in the churchyard of North Stoneham, where for more than half a century that estimable gardener Canon Beadon was Rector. Mr. Rogers succeeded his father, the founder of the nurseries, many years since, and is now in turn succeeded by his son, Mr. A. C. Rogers. The Red Lodge Nurseries are situate on an elevated plateau some three miles from Southampton, and in a particularly beautiful district. In the south they have been long famous for Rhododendrons, fruit trees, Roses, and indeed all descriptions of hardy trees and shrubs. The deceased was exceedingly liberal in relation to the nursery, throwing it open to public view in the Rhododendron season, and also freely giving shrubs and decorative material for all sorts of purposes. He was also intimately connected with the Southampton Horticultural Society, and was a liberal patron. In public life he was very active, and to the time of his death was not only an alderman of the borough, but was also Chairman of the Cemetery Committee. He was very earnest in maintaining the natural character and beauty of the extensive common, which is one of the town's great features, and lies on the same side as does the nursery. Whilst not much heard of in the Metropolis, in Southampton the Alderman had made the name of Rogers a household word.—D.

— **ROYAL HORTICULTURAL SOCIETY.**—The next Fruit and Floral meeting of the Royal Horticultural Society will be held on Tuesday December 13th, in the Drill Hall, James Street, Westminster, 1 to 4 P.M. A lecture will be given at three o'clock by the Rev. Prof. G. Henslow, M.A., V.M.H., on "Some of the Plants Exhibited."

— **GRAPES AT SHREWSBURY.**—Without doubt the Executive of the Shropshire Horticultural Society means to keep its great annual show well to the front, and shows its wisdom by annually arranging some fine class that shall form a special attraction. In proposing to offer the huge sum of £100 in prizes for twelve bunches of Grapes the record is entirely beaten, and a splendid competition should result. Having been so invited I have ventured to suggest that the prizes are too great and all the same too full, and that it would be better, starting with £20, to run the sums gradually down and make eight prizes, so as to offer to so many competitors a chance of getting some pecuniary reward. Whatever course may be adopted, without doubt a grand competition and superb Grapes will be produced.—A. D. [One of our young lions proposes £25 and six prizes.]

— **EXAMINATIONS IN HORTICULTURE.**—The date fixed by the Royal Horticultural Society for the next examination of candidates is April 11th, 1899. These examinations can be held in any town or village where any responsible person accustomed to examinations will supervise them. The time allowed for answering questions (usually, we think, eight) in writing is two and a half hours. A scholarship of £25 a year for two years is provided by G. W. Burrows, Esq., of the Worshipful Company of Gardeners, for the most successful male student between the age of eighteen and twenty-two years who is able and willing to study gardening in the R.H.S. Gardens for one year at least. We do not know for what reasons females are excluded from the scholarship, information on the subject not having been received in official form for publication.

— **THE MILD AUTUMN.**—The Meteorological correspondent of the "Daily News" writes:—One of the most notable features in our recent weather has been, of course, its extreme mildness. In all but the most northern parts of the kingdom the thermometer this month has risen daily to between 50° and 55°, and in some places the latter point has even been exceeded, the readings being, as a rule, at least 10° above the average for December. Yesterday the thermometer in London rose to 58°, this being as high a December reading as any we have had since 1856, when the thermometer at Greenwich almost touched 59°. The warmest December day since the record was commenced at Greenwich was on the 10th of the month in 1848, when the thermometer rose to 62.4°. The records for the whole of the past three months show that the past autumn was the mildest experienced within the memory of the present generation, if not of that mythical personage, the oldest inhabitant. In London there has certainly not been anything like so mild an autumn for at least fifty years past. The nearest approach to it occurred in the years 1857 and 1865, when the mean temperature of the three months, September to November, was about 53°. This year the mean value for the same period was 54.5°, so that all previous records were beaten, not by a trifle, but by as much as a degree and a half, a large excess for so extended a period of time.

— **RULES FOR JUDGING.**—A second edition of the R.H.S. code of rules for judging having become necessary, opportunity was taken to carefully examine the 200 or more paragraphs, with the view of making alterations in any of them which experience suggested as desirable. Only on one point does it appear that alteration was deemed necessary by the Committee of revision. This was in reference to disqualifications resulting through mere accidents in staging, and nothing else. Though judges still, and properly, have no power to correct the mistakes of exhibitors, they are now authorised to point out to the secretary or manager of a show any apparently accidental departure from the exact terms of the schedule, and such official has the power, with the sanction of the judges, to give an exhibitor, if at hand, an opportunity of making a needed correction, or in his absence the official may make it himself. This is strictly fair, or an exhibitor might be fined for an accident in the form of disqualification, or suffer from a "departure" for which he may not have been responsible. Where there is evidence of "intention to deceive," disqualification is stringently enforced. This new edition of the code should be obtained by all exhibitors and show officials, especially as an appendix is added, in which the nature and routine of point judging are set forth in a clear and practical manner. The manual is, moreover, worthy of being possessed by all who desire to see the standards of merit of plants, flowers, fruits and vegetables defined more concisely and comprehensively than can elsewhere be seen. The code can be had for 1s. 6d., post free, from 117, Victoria Street, Westminster.

— **BULLFINCHES.**—On page 397 I noticed "J. H." gave us warning that bullfinches would be likely to be of great trouble if not trapped, and I fully agree, as I have seen them in this locality (Mid Herts) in large numbers. If "J. H." would kindly give us a little information in the Journal as to how to trap these mischievous birds I am sure it would be of assistance to many of the craft.—C. W.

— **SUSSEX RAINFALL.**—The total rainfall at Stonehurst, Ardingly, for November was 3.77 inches, being 0.10 inch above the average. The heaviest fall was 1.13 inch on the 23rd. Rain fell on fourteen days. The maximum temperature was 58° on the 3rd, the minimum 27° on the 23rd and 30th. Mean maximum, 50.06°; mean minimum, 40.03°. Mean temperature, 45.04°, which is 2.04° above the average.—R. I.

— **NOVEMBER WEATHER AT DRIFFIELD.**—Mean temperature at 9 A.M. (corrected), 44.15°. Wet bulb, 43.11°. Mean maximum, 49.12°; mean minimum, 39.98°. Highest, 59.4° on the 2nd; lowest, 28° on the 23rd. Mean of maxima and minima, 44.55°. Mean radiation temperature on the grass, 35.10°; lowest, 23° on the 24th. Rainfall, 3.120 inches. Number of rainy days, twenty. Greatest amount on one day, 0.87 inch on the 23rd. Mean amount of cloud at 9 A.M. (estimated), 6.7°.—W. E. LOVEL, *Observer, York Road, Driffeld.*

— **NOVEMBER WEATHER AT HODSOCK PRIORY, WORKSOP.**—Mean temperature, 44.5°. Maximum in the screen, 60.8° on the 2nd; minimum in the screen, 24.9° on the 23rd. Minimum on the grass, 15.1° on the 23rd. Number of frosts, in the shade five; on the grass fourteen. Sunshine, 38 hours, or 15 per cent. of the possible duration. Difference from average — 8. Rainfall, 2.48 inches. Difference from average + 0.39. Rain fell on nineteen days. Maximum fall 1.12 on the 23rd. Rainfall from January 1st 18.87 inches, difference from average — 4.31. Mild till the last week, without any quantity of rain till the 23rd, when there was a heavy fall of snow, which soon melted.—J. MALLENDER.

— **NOVEMBER WEATHER AT DOWLAIS.**—Rainfall, 5.40 inches, which fell on nineteen days. Greatest falls, 1.15 inch on the 23rd and 1.04 inch on the 2nd. On the morning of the 23rd the ground was covered with snow to the depth of 5 inches, but rain commencing to fall at daylight it was soon gone. Temperatures: mean maximum, 50.6°; highest reading, 60° on the 9th; mean minimum, 35°; lowest reading, 20°, on the 22nd; below freezing point on twelve nights; lowest day temperature, 38°, on the 19th and 24th, with a night temperature on each date of 36°. The wind was in the N. and N.E. on fourteen days, and in the S.W. and W. on eight days. There were sixteen sunless days; average daily amount of sunshine, 1 hour 12 minutes. Very rough strong winds, with several foggy days, throughout the month.—WM. MABBOTT.

— **NOVEMBER WEATHER AT BELVOIR CASTLE.**—November had more than the average amount of sunshine. Fog was recorded on thirteen days. The wind was in a southerly direction eighteen days. The total rainfall was 2.39 inches, which fell on seventeen days, and is 0.01 inch below the average for the month. The greatest daily fall was 0.88 inch (snow and rain) on the 23rd. Barometer (corrected and reduced), highest reading 30.418 inches on the 18th at 9 A.M.; lowest 28.795 inches on the 25th at 9 A.M. Thermometers: highest in the shade, 61° on the 3rd; lowest, 22° on the 23rd. Mean of daily maxima, 49.23°; mean of daily minima, 38.23°. Mean temperature of the month, 43.73°; lowest on the grass 19° on the 23rd; highest in the sun, 104° on the 3rd. Mean temperature of the earth at 3 feet, 48.60°. Total sunshine, 67 hours 25 minutes. There were eleven sunless days.—W. H. DIVERS.

— **THE HESSLE GARDENERS' IMPROVEMENT SOCIETY.**—A meeting of the above Society was held in the Parish Schoolroom on Tuesday, November 29th, Mr. F. Mason, Hessle, in the chair, when Mr. John Snell of Elmet Hall, Leeds, read a paper on "The Culture of Mushrooms." Mr. Snell is a successful cultivator of this delicious fungus, and as was anticipated, the paper was full of practical advice, and was eagerly listened to by the large number of members present. There was a capital discussion, in which twenty members took part. The usual vote of thanks to the essayist and chairman brought a highly instructive and interesting meeting to a close. In connection with this meeting there was a decorative competition held, only under-gardeners and amateurs being eligible, for a vase of Chrysanthemums arranged for effect, artistic arrangement to be the chief merit. Mr. G. Picker, Hesslewood, and Mr. F. Mason were the judges, and the first prize was awarded to Mr. O'Donoghue, and the second to Mr. Flowers, both of Tranby Croft; the third to Mr. Skinner of The Gardens, Bishop Burton Hall, and Mr. W. Hollingsworth of The Cliffe Gardens, Hessle, was commended.—J. T. B.

— **MOMORDIA COCHINCHINENSIS.**—Among the many handsome "Gourds" cultivated in the Water Lily house at Kew this is both one of the most beautiful and most distinct. As the name implies it is a native of Cochin China. The fruits are, when fully matured, about the same size and shape as a cocoa-nut. They are thickly covered with thick fleshy spines, and are rich blood-red in colour. Anyone who intends growing this should be careful to obtain both male and female plants, as it is dioecious. It can be grown easily from seeds, but to be certain of having both forms cuttings should be used. After fruiting, the plants should not be pulled up but rested. In spring they will start vigorously, and make finer plants, with more fruit, than young ones.—D. K.

— **BIRMINGHAM GARDENERS' ASSOCIATION.**—At the fortnightly meeting held on November 28th, Mr. Walter Jones in the chair, Mr. W. B. Latham, Curator, Botanical Gardens, Edgbaston, read a most interesting paper on "Nepenthes," the subject being illustrated with a representative collection of species kindly sent to the essayist by Mr. Owen Thomas from Frogmore, and Messrs. James Veitch & Sons, Chelsea. The history, habitat, cultivation, and other attributes of the various species were instructively dealt with, and in the discussion which followed mention was made of a few other kinds of plants that are possessed of pitcher-like appendages. At the same meeting an exhibition of excellent Celery took place, the prizes being accorded to Messrs. G. Stacey, and H. Snead.

— **MR. WHITTALL, OF SMYRNA.**—Our readers will regret to hear that this gentleman, who has done so much to enrich our gardens with rare bulbs and seeds from Asia Minor, has recently been captured by brigands. The following note appears in London papers:—"Mr. Whittall, a British subject resident at Smyrna, who was recently captured by brigands in the neighbourhood of the town, was released on Saturday evening. The Sultan, on hearing of his capture, immediately sent orders to the Vali of Smyrna to do all in his power to procure Mr. Whittall's release, and even, if necessary, to pay the ransom demanded by the brigands." Mr. Whittall is to be congratulated on his lucky escape, and we sincerely hope that his adventure will not deter him from continuing to explore the mountain Flora, from which he has sent us so many fine and new Snowdrops, Scillas, Chionodoxas, Tulips, Irises, &c., during the past ten or twelve years.—F. W. BURBIDGE (in "The Garden").

— **DESTROYING STUMPS.**—With a 2-inch augur bore a vertical hole in the centre of the stump from the top towards the bottom. In the side of the stump near the ground level bore a horizontal hole towards the centre so as to open into the bottom of the vertical hole. Drop some fire down the vertical hole, and the draught of air rushing in by the horizontal hole will, like the draught of a chimney, maintain the fire in the centre, which slowly spreads and ultimately burns away the stump. Another method:—In autumn bore a hole 2 inches in diameter and 18 inches in depth, put in 1½ oz. of saltpetre, fill with water, and plug up close. During the following spring put in the same hole half a gill of kerosene oil, and then light. The stump will smoulder away, without blazing, down to every part of the roots. [So says the "Farmers' Gazette." The critical Y. L. says "perhaps" in both cases, but in the last cannot see room for the "gill of oil" when the hole is filled with water and plugged so that it cannot evaporate.]

— **PRUNE INDUSTRY OF CALIFORNIA.**—"The magnitude of the Prune industry of California," said a gentleman who is largely interested in the cultivation of that article in Pomona County, to a "Washington Star" reporter, "is little realised by the people in the Eastern States. In a decade the growing of Prunes has gone forward in California by leaps and bounds, and to-day 25,000,000 dols. is invested in it—that is, in lands, trees, irrigation system, agricultural tools, and packing-houses. The total production of Prunes gathered from trees throughout the lower part of San Joaquin Valley and the horticultural valleys of Pomona, San Gabriel, and Santa Ana will amount to about 84,000 tons this year. Of this quantity nearly one-fifth would be shipped East as green fruit, for sale at fruit stands, and for canning purposes; the remaining four-fifths dried for market, making about 24,000 tons of dried Prunes. Twelve thousand acres of Prune orchards were set out in the winter of 1891-92, and 24,000 acres more were planted in the next two years. These orchards have now come into bearing, and it is estimated that there are 55,000 acres of bearing Prune orchards in California to-day, and about 10,000 acres more to come into bearing within the next year or two. Conservative estimates put the total crop of California Prunes in a favourable year at not less than 90,000 tons. In a few years more a full yield of the fruit in this State will be more than 100,000 tons."



NELLIE POCKETT.

IN the *Journal of Horticulture* for November 24th we gave an illustration of John Pockett as one of the finest of the Australian varieties, and we now give Nellie Pockett (fig. 75) which is quite equal to its predecessor, though in different style. The flower from which our photograph was taken was kindly sent by Mr. W. Wells of Earlswood, who at the same time wrote—"I send you two of the best blooms I have left, the better of these was from a 6-inch pot. I think Nellie Pockett, for every purpose, is unequalled, its only fault being that it must not be secured on a first crown bud. It does not exceed 5 feet in height, and holds its foliage till the very last. The colour is pure white, and each plant carries three good blooms. It is a good variety for 6-inch pots, keeps better than any white I know, and is one of the best for bush plants. It took first-class certificates at the three principal shows in Australia last April, and has secured the award of merit of the R.H.S., as well as the first-class certificate of the N.C.S., with honours from about a score of provincial societies."

N.C.S. ANNUAL DINNER.

It is doubtful if this Society can point to a more successful and enjoyable entertainment than its annual dinner, which was held on Wednesday the 30th ult. at the Holborn Restaurant, when Sir Albert K. Rollit, LL.D., D.C.L., M.P., occupied the chair, and with a rare sense of tact and good humour, proved himself to be an ideal chairman in every respect for such a festive gathering. On this occasion there was a large gathering of friends and members present, not the least interesting feature being that ladies were for the first time invited to attend, and the innovation was very largely availed of by the fair sex.

The dinner being over, Sir Albert rose to propose the toast of "The Queen," and remarked that flowers had often been made the emblems of royalty—the Chrysanthemum in particular was the emblem of a friendly and allied nation that had in late years come into the ranks of civilisation, an observation that gave rise to a burst of applause, and the toast was drunk to the accompaniment of the national anthem.

"Donors of Special Prizes" was then offered in appreciative terms by Mr. P. Waterer, who referred to the excellent prizes offered by Messrs. H. J. Jones, Sutton & Sons, Deverill, Sydenham, the Royal Aquarium Co., and others, and the competition and interest these prizes evoked. He also referred to the rust difficulty, and said he would be prepared to offer a prize of £5 5s. himself for a good essay on the subject. There was also room for improvement in the present method of staging cut blooms, and he would like to see the Society institute a class for sixty cut blooms in twelve vases, five blooms in each, an expression which soon afterwards found a ready response in Mr. H. J. Jones, who said he would be pleased, subject to the approval of the Committee, to offer the sum of £25 for such a class. One of the names coupled with the toast was that of Mr. J. W. Wilkinson, Secretary of the Royal Aquarium Co., who said it was always a pleasure to be present at their dinner, for on each occasion it was only to record renewed success. It would interest them to know that the class in which his company had offered special prizes necessitated about 1000 superficial feet of tabling, and other special prizes had also caused very keen competition. Mr. H. J. Jones also replied.

The presentation by the Chairman of the national challenge trophy to the representative of the Portsmouth Society then took place, the Chairman remarking that we all looked to Portsmouth in certain events as a shield with our navy, and he was pleased to see Portsmouth had so much fight in it. Mr. Berry replied that they were in a fighting mood at Portsmouth, and hoped to come to London again, allusions which were very warmly received. Next followed the presentation of the Holmes' Memorial cups to the winners, Mr. Higgs and Mr. Lees, the latter of whom would have taken both but for an unfortunate oversight in setting up his stand of incurveds. Various medals won at the November show were also distributed by the Chairman, affording him many opportunities of displaying his abilities as a speaker, the whole proceedings being enlivened with humorous and encouraging remarks, which were warmly appreciated by his audience.

This being completed, Sir Albert rose to propose the toast of the evening. He reminded the company that as far back as 1884, when Mayor of Hull, he opened the first Chrysanthemum show there, which was now celebrated throughout the kingdom. He was pleased to find

on this occasion that Hull was represented by Messrs. Simpson, Witty, and Harland. He considered the culture of flowers a great means of education, for it was astounding how the smallest piece of land might help in the decoration of the home and give refinement to the character. Referring, after other remarks, to the Chrysanthemum, he said it was a plant worthy of all the trouble and toil bestowed upon it. In China it had been stationary to a large extent, but when it had once been introduced to a civilised country, its improvement was really wonderful. Coming as it did in autumn, when flowers are scarce, made it most valuable, and the cult of the Chrysanthemum was fully justified. Like many other things the Society had originated in the north of London, a portion of which he had the honour of representing in Parliament, it now counted upwards of 800 members and many affiliated societies, and was doing good work, and must be regarded as an excellent national institution. He would therefore propose the toast of the "National Chrysanthemum Society," adding, may it flourish root and branch for ever, and he hoped it would be both annual and perennial so far as its prosperity was concerned.

Mr. E. Harland proposed, "The President, Vice-Presidents, officers, Auditors, and Committees," which was responded to by Mr. Harman Payne and Mr. A. E. Stubbs, the former briefly referring to the work of the foreign department, while the latter laid stress upon the reserve fund.

The Chairman was perhaps in his happiest vein when proposing the toast of "The Ladies." He said the custom of exclusion of the ladies was a relic of the ages of barbarism, which robbed festivities like this of all their charm and gladness, and he was pleased to have occupied the chair on this the first occasion of their presence. Mr. Leonard Brown replied.

Other toasts included "The Chairman," proposed by Mr. T. W. Sanders, who referred to the public duties that devolved on Sir Alber', and expressed the hope that they should see him on future occasions. "The Press," proposed by Mr. Fife, and replied to by Mr. Geo. Gordon, who reminded them that some of the popularity of the Society depended upon pressmen, who, apart from reporting the work of the Society, assisted it in a more active manner by filling various offices of importance.

The tables were, as usually, well decorated with cut blooms of Chrysanthemums, some of which were effectively set up in huge Japanese vases kindly lent by Mr. H. J. Jones. During the evening songs and pianoforte selections were performed under the direction of Mr. A. Taylor, and the gathering broke up about 11 P.M. after singing "Auld Lang Syne."

PROPAGATING CHRYSANTHEMUMS.

THE propagation of Chrysanthemums is a most interesting phase of their management. The time has arrived for a commencement to be made in inserting suitable cuttings. Too much care cannot be exercised in selecting the fittest for the purpose, as upon their character depends the ready rooting and free character of the subsequent growth. There is always a marked distinction in the vigour and stamina of plants grown from superior and those raised from indifferent cuttings.

Efforts to encourage the growth of hardy and short-jointed cuttings should begin in earnest immediately the flowering plants have been cut down. Something may have been done previously to this end, such as clearing away any useless growths which crowd the cuttings. Some adopt special methods of insuring a supply of cuttings, but the majority of cultivators depend on the old plants for affording new stock of the varieties they already possess. Dependence must be placed on the trade growers to supply fresh or new varieties. Most of them who know the importance of the matter are better able to supply first-class cuttings than numbers of cultivators who may have not the requisite convenience to store plants for producing them.

The Chrysanthemum specialists endeavour to give as much attention to the production of good cuttings as they do to the exhibition of high-class blooms. Whenever, therefore, cuttings of any particular variety are scarce, inferior, or not procurable at home, it is better to state requirements to reliable specialists able to meet any reasonable demand. The careless exchange of cuttings between cultivators is to be condemned, and none ought to be supplied which are not calculated to succeed well.

If the fresh stock of plants required must be propagated from present or recent flowering plants, the pots containing the old stools should be placed where they can receive the most light as soon as practicable after the stems are removed. The best place for them at this stage is a cool frame or pit which can be easily ventilated, and the plants occupy a position not far from the glass. A shelf also in a cool structure would suit the plants admirably. The soil in the pots must be kept moist, but not wet, and no more heat should be afforded than will protect from frost. Rub off all cuttings which may be springing from the hard stem, and pull out long weakly stems issuing from the base. The most promising sucker growths will then have a better chance of growing and strengthening in a satisfactory manner.

Although it is usually considered best to insert the late flowering varieties early in December, the midseason varieties late in the month or in January, and the October-flowering varieties in January and February, this is only chiefly necessary with exhibition varieties, and provided proper cuttings can be secured at the periods named. Rather than insert weak or inferior cuttings at a set date it is much better

A suitable compost for rooting the cuttings consists of loam and leaf soil, two parts of the former to one of the latter, with a free admixture of sand—sharp silver sand. Mix these thoroughly together in a moderately moist state so that the mixture will be in a healthy condition, neither wet nor dry. The most useful sizes of pots to insert the cuttings in are “thumbs” and 3-inch pots. The thumbs



FIG. 75.—NELLIE POCKETT.

to wait until cuttings have improved or others thrown up from the stools. The best cuttings have good clear central growth, and possess no flower buds. They are the growths from suckers extending from the base below the soil, the cuttings rising through and developing short, sturdy growth. These are ready to be inserted when 3 or 4 inches long.

will receive one cutting placed in the centre; the larger size several may be placed round the edge, where they readily take root. The pots must be cleaned and well drained, covering the crocks with a little damp moss or rough material from the compost. Fill in the soil well above the rim and shake it down to a level just below it, surfacing with sand.

Prepare the cuttings by severing them below a joint, and removing the lower leaves. The holes for their reception must be made with a blunt stick, and the cuttings inserted so as to rest on the base. This is very important. The soil must also be pressed firmly round the cuttings and the sand levelled. Afterwards afford a gentle watering. The position for the cuttings must then be decided upon. Strong heat is not helpful, but the reverse, as it causes evaporation from the leaves too rapidly, the leaves flag, and rooting is consequently retarded. A structure heated sufficiently to keep out frost suffices. The cutting pots ought to be placed in a box covered with glass, under a hand-light, or in a frame with a light which will move off or open conveniently. The base on which the pots stand should be moist, and kept so. Keep them perfectly close, but once a day at least wipe off any moisture that has collected on the glass. Watering ought not to be required frequently, but the soil must be maintained moist.

Give a light position, but shade the cuttings from any excessive sunshine which may cause them to droop. When roots begin to form air must be admitted, but some may be considerably more advanced than others in rooting. These pots may be withdrawn, and placed together under a hand-light or in a box where air may be given, gradually increasing in volume until full exposure is possible. The best place after this is on a shelf close to the glass, and there they may remain, duly watering and ventilating, until the increase of roots warrants their being potted singly, or those in thumbs transferred to larger pots.—E. D. S.

TOO-MUCH-ALIKE VARIETIES.

I AM not surprised at some of your readers taking exception to the harshness of any rule that enforced the disqualification of a stand of incurved blooms such as was staged by Mr. W. H. Lees at the exhibition of the National Chrysanthemum Society at the Royal Aquarium on November 8th, and as one of the judges responsible for the disqualification, I am glad to note that no one put the onus on us, for under the new rule we had no alternative but to disqualify. It would not have been fair to the other exhibitors had we not done so. It must be acknowledged that the executive did all they could to bring the rule to the notice of exhibitors, for, in addition to the special note printed before class 1 in the schedule calling attention to this particular resolution, there is a foot-note under the list of the bracketed varieties which runs, "The attention of exhibitors is particularly called to the foregoing list of too-much-alike varieties, bracketed together, which should be carefully examined previous to staging blooms for competition." That this should have been overlooked by the exhibitor in question is unfortunate, but it shows that the best of men make mistakes sometimes.

As regards the merits of the blooms there were no two opinions. As "Sadoc" says (page 417), if all exhibitors were careful to stage them so distinct as Mr. Lees, there would be no necessity to make the rule. To this I agree. Mr. Lees has the true type of Mrs. Heale, and when such is the case there is as much difference between that and the parent Princess of Wales as there is between Queen of England and Empress of India. I take it that what prompted the Society to take this step were the many attempts which have been made to blind the judges at various shows by exhibiting a bloom from an early crown bud of Princess of Wales—which naturally comes pale—as Mrs. Heale, and a flower from a later bud as Princess of Wales, though both may have been from the same plant. This has caused considerable heartburning in disqualification, or wrangling if overlooked or passed by the judges. Why is it we so very rarely see Mrs. Heale in its true form? Because the true stock is so very scarce on account of its shyness in producing cuttings. It is well known all the Princess type are more or less clean-stemmed, as we term it, but Mrs. Heale is particularly so.

This is no new contention. It is now some sixteen or eighteen years since this question was brought before the Committee of the Kingston-on-Thames Chrysanthemum Society, and I, possessing the true types, produced blooms of the two varieties, which convinced the Committee that it was possible to exhibit them quite distinct. But it is only on rare occasions that I have had the pleasure of seeing them so distinct as in the stand that has caused this correspondence; hence probably it was a wise plan, and will save many disputes, to bracket the two together. There is not the necessity now to retain doubtful varieties as there was in the past decade, when it was difficult to find the last two varieties to make up a stand of twenty-four distinct incurved, there being now so many newer introductions at the exhibitor's command.

In the case of the awards that have been made at the exhibitions of some of the affiliated societies this season I have contended that they are not on the same footing as the parent Society this year. In most of the affiliated societies' schedules there is a foot-note stating that "The National Chrysanthemum Society's *Catalogue* will be the standard work of reference in all cases of classification." And as

this new rule or resolution is not yet published in the *Catalogue*, or the varieties bracketed together there as synonymous, it is not binding on the affiliated societies this year. The schedule is not the *Catalogue*, but it may be the first step to that work of authority, and compilers will do well to notice the new addition that no doubt will be published before the coming season.

This, probably, will explain to "A. D." why varieties passed at other exhibitions were disqualified at the N.C.S. For the reason given I have passed some of the bracketed varieties that have been shown fairly distinct at provincial shows since their disqualification at the National, and have explained the reason why I did so, but likewise have given them a word of caution to be on their guard another year.—C. ORCHARD, *Bembridge, I.W.*

"SADOC," page 417, seems to hold that all other Chrysanthemum societies should adopt the classification rules of the N.C.S. Why so? If the N.C.S. choose to adopt an absurdity, why does it follow that other societies should take the same course? I can understand that societies affiliated to the N.C.S. are, by reason of such affiliation, bound by its rules, but certainly none others. I have not charged the trade with doing anything improper in reference to selling these varieties classed as too much alike, and therefore, if shown in the same stand, causing disqualification. What I complain of is that these varieties, catalogued as distinct, have both distinct names and descriptions, and, stranger still, have largely been by the N.C.S. and other societies certificated under the names put into commerce as distinct.

But every grower of Chrysanthemums knows that whilst so many of these, and indeed of other non-classified varieties, have at certain times strong points of resemblance, they have at other times strong points of dissimilarity, and that fact serves to show that they are really distinct. No trouble of this kind existed until some officious N.C.S. member thought immortality was to be obtained by creating this contested and condemned classification, which has made matters worse rather than better.

As to disqualifications under the N.C.S. rule, judges, however imbued they may be with faith in the infallibility of the N.C.S. classification, have no right or power to disqualify such flowers at shows other than the N.C.S., unless they have special instructions to that effect, and a classified list is published in the schedule. If the N.C.S. Floral Committee absolutely refused to make awards to too-much-alike flowers, how few of these cases of similarity would occur. But when that body certificates a variety, and then the Classification Committee, some time or other later, brackets that variety with another as too much alike, it is certainly making the Floral Committee look ridiculous. The whole thing is a hobby of someone's, being well ridden to death.

I have been wondering how matters would work out in connection with some other things, fruit for instance, if these fad-mongers had their way. How many Peaches, Nectarines, Plums, Apples, Pears, Gooseberries, Strawberries, and others, would be classed as too much alike? After all, this trouble grows in the Chrysanthemum so much because of its sportive habit. No sooner is a sport produced than it is named and certificated and put into commerce as distinct. What wonder if, because a sport's flowers not unfrequently resemble those of the parent variety! Still, if the sport be recognised as a distinct break or variety that fact should authorise the exhibiting of flowers from it in all classes in which the section to which it belongs is admissible. With whom the responsibility rests of putting varieties into commerce as distinct that are now declared as too much alike I leave any critic to determine.—A. D.

HYBRID CHRYSANTHEMUMS.

YOUR practical contributor, "A. D.," has ably ventilated a question which deserves the consideration of some of those who are expending a vast amount of thought, time, and money in raising new varieties of the autumn blooming Chrysanthemums. As your correspondent suggests, something might be done to impress on the Marguerite (*Chrysanthemum frutescens*) the colours and larger flowers than the others. In other directions also results might be looked for. One might suggest, for instance, that *C. maximum* and similar perennial congeners might be operated on. Possibly only failure would result, but those who have followed the vast strides made with other plants will not despair of the possibility of seeing some progress in the direction indicated. We might thus in the outdoor garden link together the favourite Pyrethrums with their exquisite colours with the early flowering Chrysanthemums of August and September.—S. ARNOTT.

CHRYSANTHEMUMS FOR THE QUEEN.

MESSRS. W. & G. DROVER, Chrysanthemum growers, Fareham, we are informed, have had the honour of submitting forty-eight Chrysanthemum blooms to her Majesty the Queen at Windsor Castle. They were very much admired.

NATIONAL CHRYSANTHEMUM SOCIETY.

THE last meeting of the season of the Floral Committee of this Society was held on Tuesday, the 6th inst., at the Royal Aquarium, when Mr. Thomas Bevan took the chair. There was a full attendance of members, but the exhibits were not numerous, although of excellent quality. Part of the business consisted of fixing the dates of the meetings for 1899, and it was resolved that next year's meetings be held at half-past one o'clock on the following dates—viz., September 27th, October 10th and 25th, November 1st, 15th, and 22nd, and December 5th. It was also arranged that the annual dinner of the Committee take place on Monday, the 12th inst., and that a meeting of the Classification Committee be held at the same time.

The Committee made the following awards of first-class certificates:—

Madame R. Cudbury.—A Japanese of large size and with long close florets of medium width, slightly curly at the tips and drooping. The blooms are deep in build and of good substance. Colour pale creamy white. Shown by Mr. H. Weeks.

Red L. Canning.—A decorative free flowering late Japanese; rather free, flat florets of a dull chestnut crimson shade. From Mr. A. Felgate, jun.

THE CHRYSANTHEMUM SHOWS.

WITH what a sense of relief do readers of the gardening papers realise that the deluge of the Chrysanthemum shows for the present year is over, and that it is possible for those who are not worshippers at the shrine of the great Chrysanthemum juggernaut to both read and breathe. No doubt editors know their own business best, and therefore fill their pages with as many reports of shows as they can. But when the course of reports commences it is time for the ordinary reader who still retains his head to go for the time into retirement, perchance to the seaside, or to that "lodge in some vast wilderness," for which Cowper sighed, until the flood of Chrysanthemum names and winnings had swept by. I have often wondered whether any persons but those few whose names for once in a year get publicity through publishing these monotonous accounts read these reports.

I presume editors defend the practice by saying, "If we do not publish these reports others will." Whether such defence is sound is hardly a matter for readers to determine. Happily, the report season is sharp, short, and severely limited. I have grave doubts whether horticulture, the art of gardening, is very much the better for all this slavish worship of one flower. The Rose is one of exceeding beauty, more easily grown, and eminently a national flower, but not one tithe the fuss is made over it as an exhibition flower that is made over the more modern Chrysanthemum. But whilst myriads grow Roses from pure love of the flowers the few only of growers relatively grow for competition when they do so; further, the pecuniary element is so moderately prominent. But were the pecuniary element removed from Chrysanthemum culture, so far as exhibiting is concerned, how many or how few would be worshippers at the shrine of this sainted flower?

When in visiting a garden during the autumn the battalions of tall plants in large pots are reviewed, three-fourths are found grown to produce giant show flowers, and the rest are not objects of pride or concern, because they are intended only for conservatory decoration or for the furnishing of domestically decorative cut flowers. Remove the pecuniary inducement held out in the form of prizes, and interest would rapidly die. This is a sad condition of things, and it may be that the publication of these Chrysanthemum show reports helps to perpetuate the evil.

I am fully aware that this is a terribly pessimistic and unpopular aspect of the Chrysanthemum furore. Gardeners and traders, growers of these flowers, are so very human, and in company with the mass of humanity of the commercial world regard getting money as the primary aim and object of existence. That may be a very good doctrine in relation to things mundane generally, but when associated not with gardening as a means of living, which is quite another thing, but in booming one flower so excessively that it may be the means of winning prizes, and not out of that love for the beautiful in flowers which alone animates the true florist, then is it something to be deprecated. Well, here have I laid my bosom bare to the world. How many will contend with ink and pen for the honour of slaying this revolutionary—ICONOCLAST?

[How many will observe this pity for an Editor's being inundated with Chrysanthemums and then turning the tap for another douse?]

NATIONAL CHRYSANTHEMUM SOCIETY.

DECEMBER 6TH, 7TH, AND 8TH.

THE last of the 1898 series of exhibitions held under the auspices of the N.C.S. at the Royal Aquarium opened on Tuesday last, and was a most decided success. The Show was not particularly large, but the flowers staged were of very high quality being fresh, rich in colour, and of good size. In many of the classes the competition was remark-

ably close, there being from eight to twelve entries. Non-competitive exhibits again were very fine for the time of the year, being numerous, as well as of fine quality.

There were nine entries in the class for twelve Japanese, distinct, and, needless to say, some excellent flowers were staged. Despite the lateness of the season the blooms had depth, solidity, and colour. Mr. T. Lunt, gardener to A. Stirling, Esq., Keir, Dunblane, was a splendid first with *Graphic*, *Simplicity*, *Australie*, *Mons. Gruyer*, *Mrs. H. Weeks*, *Khama*, *Oceana*, *Madame Ph. Rivoire*, *Edith Tabor*, *Niveus*, *Matthew Hodgson*, and *Louise*. The second position was adjudged to Mr. R. C. Notcutt, Ipswich, who also staged well, his blooms of *Silver King*, *G. J. Warren*, and *Matthew Hodgson* being especially noteworthy. Mr. F. King, gardener to A. F. Perkins, Esq., Holmwood, was third, and Mr. R. Kenyon, gardener to A. F. Hills, Esq., Woodford, fourth.

In the class for six Japanese, distinct, there were eight exhibitors, of whom Mr. J. Sandford, gardener to G. W. Wright, Esq., Finchley, was placed with grand flowers of *Silver King*, *G. J. Warren*, *C. W. Richardson*, *Simplicity*, *Madame Carnot*, and *Golden Gate*. Mr. T. Lunt was second; and Mr. G. Elder, gardener to J. W. Benson, Esq., Epsom, third.

Six competitors staged twenty-four Japanese, distinct, and Mr. T. Lunt proved invincible with a most creditable stand comprising *Simplicity*, *Australie*, *John Seward*, *Mons. Hoste*, *Matthew Hodgson*, *Mons. Gruyer*, *Mrs. H. Weeks*, *Oceana*, *Mrs. F. A. Bevan*, *Niveus*, *Mdlle. M. A. de Galbert*, *John Seward*, *Mary Molyneux*, *Graphic*, *Mrs. G. W. Palmer*, *Khama*, *Duchess of York*, *Louise*, and *Dorothy Seward*. Mr. R. Kenyon was placed second. The flowers were even and clean, the best being *Julia Scaramanga*, *Simplicity*, *Joseph Brookes*, *Matthew Hodgson*, *Graphic*, and *Madame Carnot*. Mr. W. Slogrove, gardener to Mrs. Crawford, Gatton Park, Reigate, was third.

For twelve incurved, in not less than six varieties, Mr. F. King was an excellent first with *Mdlle. Lucie Faure*, *The Egyptian*, *Miss P. Fowler*, *C. B. Whitnall*, *Miss N. Foster*, *Bonnie Dundee*, *Lord Rosebery*, and *L'Amethyste*. Mr. J. G. Foster, Brockhampton Nurseries, second; and Mr. R. Bassil, gardener to D. H. Evans, Esq., Pangbourne, third. There were eight competitors. There was apparently only one exhibitor of twelve bunches of Chrysanthemums. This was Mr. R. C. Notcutt, who was deservedly awarded the premier prize. For six bunches Mr. J. Hoath, gardener to A. W. Chapman, Esq., Farnham, was first; Mr. G. Elder second; and Mr. T. Robinson, gardener to W. Lawrence, Esq., Hollingbourne, third. Mr. W. Howe, gardener to Sir Henry Tate, Bart., Streatham Common, was decidedly first for twenty-four bunches of Chrysanthemums, any varieties. Mr. Norman Davis, Framfield, was second; and Mr. S. J. Cook, gardener to A. N. Stephens, Esq., Hendon, third.

There were three competitors for twelve bunches single varieties. Mr. G. W. Forbes, gardener to Madame Nicols, Regent House, Surbiton, was placed first with a capital display. Mr. A. Felgate, gardener to Elizabeth, Duchess of Wellington, Walton-on-Thames, was a good second; and Mr. W. C. Pagram, gardener to J. Courtney, Esq., Weybridge, third.

For six bunches large flowering single varieties Mr. A. Felgate secured the first prize with a strong stand, followed by Messrs. Tullet and Meridew in the order named. For six bunches of small single varieties Mr. Tullet led with a good stand, followed closely by Mr. A. L. Reynolds.

For a collection of flowering, berried, and foliage plants Mr. A. Newell, gardener to Sir Edwin Saunders, Wimbledon Common, was placed first with a well arranged group, consisting of *Roman Hyacinths*, *Bouvardias* in variety, *Poinsettias*, *Begonia Gloire de Lorraine*, and a variety of foliage plants, and Mr. W. Howe, gardener to Sir H. Tate, Streatham Common, second. For a collection of Cyclamens Mr. W. Orpwood, Andover Nursery, Uxbridge, was awarded first with a well flowered collection. Mr. W. Orpwood was again first for a group of *Primulas* with well grown plants.

Messrs. H. Cannell & Sons, Swanley, contributed a large display of Chrysanthemums, Begonias, and Zonal Pelargoniums. The most conspicuous in the Chrysanthemums were huge bunches of *Miss Harvey*, the white *Mrs. Filkins* (a capital variety for December flowering), *Alice Carter*, *Golden Dart*, *Julia Scaramanga*, and *Mrs. Filkins*. The Pelargoniums were really grand, the colours exceedingly bright and fresh, quite paling the surrounding flowers. Mr. N. Davis, Framfield, exhibited an imposing display of Chrysanthemums, tastefully arranged in gigantic vases, baskets, and numerous floral devices, the whole grouped with Palms, Crotons, and Ferns. The huge vases of *G. J. Warren*, *Madame Carnot*, and *Mrs. Hermann Kloss* were magnificent, the decorative sections were well represented, and contributed to make a grand display.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, exhibited in his well-known style. The large flowering varieties were staged in large vases, and comprised good examples of *Julia Scaramanga*, *Mdlle. L. Zédé*, *Western King*, *Georgina Pitcher*, and *Mrs. H. Kloss*; the entire group edged with boards of specimen blooms, the whole being tastefully filled in with small Ferns, Palms, Crotons, and foliage plants. Mr. T. S. Ware, Ltd., Tottenham, staged a group of cut Chrysanthemums, comprising a good collection of single varieties, while the incurved and Japanese varieties were well represented.

Mr. A. Felgate, jun., Hersham, Surrey, exhibited a group of red *L. Canning*, also boxes of cut blooms. The variety will be an acquisition to market growers, and for late decorative purposes. Mr. R. Owen, Maidenhead, staged a fine display of cut blooms, principally specimen flowers. The best forms were Mr. M. Versfeld, Mary Molyneux, and several new seedlings.

ODDS AND ENDS.

AMONGST the fine plants we had in our herbaceous border this year few were more noteworthy than the stately *Eremurus robustus*. Two fine spikes, 10 feet in height, had a telling effect, towering high above everything else around them. Nearly one-half of the tall spike was literally covered with the delicate peach coloured flowers, which lasted for several weeks, as they are produced in succession. Many persons who saw it were struck with the delicate beauty and noble proportions of this stately plant. I was fortunate in securing a quantity of well matured seeds, with which I trust I may be able to increase our stock. It requires good soil to develop fine flower spikes.

The foregoing, although beautiful as a border plant, was practically useless as a plant for supplying cut flower for house decoration, but we had an abundance for cutting from some large clumps of *Alströméria aurantiaca*. From this old-fashioned plant we cut for upwards of three months. The blooms last well in water, and also lend themselves readily to various types of room decoration. The clumps had been undisturbed for years, but this autumn in making alterations we had to remove them, and may on that account not have such an abundant supply next summer. It requires a deep rich loam, and should be planted at least 12 inches beneath the surface. There are several beautiful varieties which are well worthy of cultivation.

This year, which is fast drawing to a close, has, on the whole, not been a bad one—at least, in Scotland. We have been blessed with fairly good crops on the whole. Some things may have been a little under average, but on the other hand others were abundant. Vegetables have been good, and fruit, with a few exceptions, fully up to the average, and flowers have never been finer. At the autumn show of the Royal Caledonian Horticultural Society, which was held in Edinburgh last September, the display of cut flowers far exceeded anything I have seen there during the last twenty years.

While on the subject of cut flowers there is another matter of which Scotsmen feel a little proud at the present time, and that is the excellent display of Chrysanthemums made at the show held in the Scottish metropolis a few weeks ago. In the after-dinner speeches the two censors, Messrs. E. Molyneux and Ed. Beckett, spoke very highly of the excellent quality of the Japanese blooms shown, remarking that they had not seen finer anywhere. Doubtless the extra fine summer has something to do with the high quality of the flowers, but we are learning too. Speaking of Chrysanthemums there is one fine variety which has been seldom seen this year, and that is Western King. With me it has done splendidly, and consequently I have been astonished to observe how seldom it has been seen in first prize stands. I think it is one of the finest whites of its type.

A Plum tree in our gardens produced a very poor crop of fruit; but, as if ashamed of its meagre crop, it produced a second, which we gathered in the first week in November. Although not first-class dessert fruit, they did capitally for tarts. The variety is Victoria, and not everybody can say he had Plum tart in November.

Another example of the extraordinarily fine season and I have done. About the 16th or 17th of November we gathered a dish of excellent Mushrooms in one of the parks. These were of fine quality. I do not remember ever having seen Mushrooms in the open fields so late in the year. Have you?—ALBYN.

["Fields" are scarce within four miles of "Big Ben," but we have recently gathered some "beauties" from the open garden.]

COTON HOUSE.

WITH pleasure and anticipation I recently pressed forward to visit the gardens of Coton House, near Rugby, the residence of Arthur James, Esq., for on several occasions during the past season I had seen the grand Chrysanthemums staged by Mr. A. Chandler, the enterprising gardener. This comparatively new exhibitor has made such rapid strides that his fame is well established in the Midlands, and in whatever company he may in the future exhibit his opponents will find him a "hard nut to crack." This year Mr. Chandler has exhibited in nineteen classes, secured seventeen first prizes and one second.

I do not intend in this case to follow the stereotyped style of describing minutely the scenery or points of interest on my journey, for an autumn day, even after an "Indian summer," does not always stir the imagination into penning glowing descriptive notes; such thoughts come instinctively with the fresh beauties of spring, or the brilliancy of summer. My musings on this particular autumn day were occupied with a subject which always fascinates me. I was anticipating that I should be able to chronicle some good cultural achievements, something to show the croakers that "gardening is not decaying," but advancing, and that rapidly, in many directions; to show them that the same desire to excel, to do their best as true Britons, animates the rising generation of gardeners to-day as strongly as it did their predecessors, even in the "forties."

The glass structures at Coton House are situated in the kitchen garden conveniently near the mansion. There are five plant houses, four vineries, and three Peach houses; several of the plant houses are of recent construction, the whole of them are built on modern principles, and are well arranged and useful. The vineries were the first to claim

attention, and, as might be supposed, some of them were filled with Chrysanthemums. At the time of my visit Mr. Chandler had finished cutting exhibition blooms for this season, but I fancy many growers would be well pleased if they could at the beginning of the season have as many grand flowers to select from as those I saw at Coton House gardens. An enormous bloom of Miss Eibel Addison claimed special attention, as I had certainly never previously seen a bloom of that variety anything approaching it in size. *Australie* was also in grand form, not one or two blooms only, but pretty well a dozen flowers were superb, each being of great depth and finely incurved. Madame Carnot, Lady Ridgway, Mons. Chenon de Léché, Mons. Henri Capitant, and Ella Curtis were a few varieties which I singled out, but of nearly all the varieties which Mr. Chandler has recently exhibited fine flowers were still upon the plants.

The incurved section is not largely grown, but of the Queen family many good flowers remained, as well of deep ones of Princess of Wales and C. H. Curtis. Many of the plants I noticed were carrying three flowers, some had been stopped, others allowed to make the natural break, and in some instances the best flowers were produced from cuttings inserted in March, one bloom being taken from each plant. In all these matters the practice of treating each variety according to its peculiarity is strictly followed. Mr. Chandler is no great believer in enormous leaves. The characteristics of his plants are hard brown wood and leathery leaves of moderate size. No artificial manure is mixed with the compost used for the final potting. It consists of loam, droppings, and a little soot, bones being placed over the crocks. Only 400 plants are grown. One span-roofed house was filled entirely with Chrysanthemums, the remainder of the plants being placed in three vineries, in which Grapes were still hanging; and yet I did not notice a single decaying berry, or a "gap" where one had been cut out.

Now for a few words about the Vines and Grapes. It is easy to see at a glance that these are not neglected for the Chrysanthemums, for both are in splendid condition. The Vines appear to be about seven or eight years old, and are planted 4 or 5 feet apart. On both Alicantes and Muscats the bunches were large shapely ones, averaging from 2 to 3 lbs. in weight, the berries being good and colour of the best—in fact the Grapes, like the Chrysanthemums, showed culture of the highest order. To admit light to the plants beneath, the laterals had been shortened back to the bunch, and the strong brown wood and prominent buds gave promise of fine results another season.

In the Peach houses the same evidences of good culture were apparent. The majority of the trees were young, yet were rapidly covering their allotted space with well-balanced beautifully trained shoots. The trees are trained to trellises fixed across the house, instead of immediately under the roof. This system was long ago adopted by Mr. Challis, the able gardener at Wilton House in Wiltshire, and both there and at Coton House the plan is much liked, as the results are good, and a greater amount of space is secured.

Passing on to the plant houses we enter one entirely devoted to winter flowering Carnations, and a grand display they make. There can be no doubt about the profitability of Carnation growing when they can be flowered as seen here. The plants were not rooted till February last, yet many of them are in 7-inch pots and have four or five shoots, each carrying many flowers and buds. Last year 6700 flowers were cut from this house, which is only 30 feet in length. A seedling of very dwarf habit and wonderfully floriferous has been named the Hon. Mrs. Arthur James. The colour of the flower is a peculiar one, being a near approach to magenta. So good a variety should be put in commerce. Mrs. Leopold Rothschild is grown in quantity, as it is a variety which can always be depended upon to flower well. A fine white is Miss May Godfrey, quite an ideal flower. W. Robinson is perhaps the finest scarlet yet sent out, but it does not flower quite so freely as some other varieties. Another good scarlet is J. P. Rogers. Among crimsons the most striking flower I saw was an unnamed seedling. President Carnot (crimson), was also in good form. Duchess of Devonshire was grown in quantity; in its way it is certainly one of the most beautiful among Carnations. The pale pink centres of the flowers, which are shaded to a very light edge, give a delightful example of colour blending.

That grand winter flowering Begonia, *Gloire de Lorraine*, is seen in perfection in another house in which the central stage is filled entirely with it. It is simply a mass of beautiful pink. The plants are in 5 and 6-inch pots, shapely, and well balanced, almost like cushions of pink. The Palms and Ferns around the sides of this house form a capital setting for the central mass of flowers. I think I noticed in a recent number of the Journal that someone stated the shoots of this Begonia should be stopped but little. Mr. Chandler stops persistently, and I cannot conceive how better results could be obtained.

A start has been made in Orchid growing, and in the new houses erected both imported and established plants are being treated on systematic lines. The stages of the houses are fixed over shallow water tanks, which makes the regulation of atmospheric moisture an easy matter, and debars slugs from working havoc among the young growths. Pits for *Odontoglossum* and other cool Orchids are built against the wall of one house on the outside, arrangements being made for giving them heat when required by admitting warm air from the house. Hanging from the roof in one house I noticed well flowered plants of *Dendrobium formosum giganteum*, and on the side stage attractive spikes of *Oncidium crispum*, and "slippers" in the form of *Cypripedium insigne* and *Spicerianum*; with the latter variety two flowers were in some instances borne on a single spike. Two gigantic plants (in pans) of *Cœlogyne cristata* were in superb health, giving rich promise of a wealth of flowers in the early spring months. In the conservatory adjoining the

mansion fine baskets of that beautiful trailing Asparagus—deflexus—were suspended from the roof, the sides of the house being gay with Chrysanthemums and Begonias, a well flowered plant of *Ixora javanica floribunda* being also a conspicuous object.

Violets are splendidly grown, both in pots and frames. The favourites are two grand single ones—Victoria and California. The plants were producing flowers in abundance, of wonderful size. Marie Louise is also grown in considerable quantities, but the modern single varieties have become dangerous rivals in the race for popularity which the doubles once monopolised.

A November day is not the best time in the year to write notes of a kitchen garden. Signs of energy and good culture were here also apparent; plenty of useful "green stuff" being ready for the pot, and large neatly trimmed beds of Asparagus showed that this delicious vegetable is in great demand. Old fruit trees were being uprooted round the walls to make room for vigorous youngsters, and many bushes had already been planted round the sides of the walks. Such is a brief record of the work which is being carried out by Mr. Chandler at Coton House Gardens. Such work redounds to the credit of a young head gardener, and is another proof that the honour of British horticulture is safe in the hands of the rising generation of gardeners in those instances in which the kindly hand of encouragement is held out by generous employers.

Both the "squire" of Coton House and the Hon. Mrs. Arthur Janes take a keen delight in their gardens, and watch the progress made in various departments with the more interest because they understand so well the difficulties as well as the pleasures of gardening, and are ever ready to help forward the projects of their energetic gardener.—H. D.

NERINE ELEGANS ALBA.

THE Nerines that produce bright red or scarlet flowers are extremely popular with many growers, as they are so valuable for autumn and winter flowering. Of late many new varieties have been raised by Mr. H. J. Elwes of Colesbourne, who is gradually broadening the range of colouration. But while those referred to are exceedingly effective, it is very desirable that the white one named above, and portrayed in fig. 76, should be included in collections, as it is very chaste and attractive. It was introduced some six or seven years ago by Mr. T. S. Ware, Tottenham, and is a native of South Africa. It is almost hardy, but it is advisable to afford it the protection of a cold frame during the winter to prevent the leaves being injured. Like the many other Nerines it is of extremely easy culture, but it is most essential that it shall have a distinct season of rest.

FLORAL DECORATIONS.

I HAVE read and re-read the remarks relative to an article under the above heading by me in the *Journal of Horticulture* of September 29th. I say remarks, because I can scarcely call it a criticism, as Mr. Strugnell (page 375) takes exception to one paragraph only, in which I say foreign foliage should not be used for flowers in table tracery, and he asks if Ferns are not to be so used, for what purpose are they grown? Also, what would I advocate to associate with spikes of *Odontoglossums*, *Oncidiums*, and other Orchids, and what would be used to clothe the nakedness of deciduous *Calanthes*.

I presume Mr. Strugnell means the employment of the Orchid spikes in glasses or vases, and not for table tracery on the cloth. I am inclined to think that even the most extravagant floral decorator would scarcely lay on the cloth such costly and fragile flowers, however beautiful or appropriate they might be. If the flowers alluded to were placed in suitable receptacles the use of foliage might be entirely dispensed with. I believe this continual use of what is termed elegant foliage has its origin in custom, and not because it lends any additional charm to the flowers, and it is this use of greenery that has led to the overloading of dinner tables which has frequently shocked people of refined taste.

I may perhaps be allowed to quote a paragraph from my article on the arrangement of flowers in the house, which appeared in the *Journal of Horticulture* on June 10th, 1897—"Cut flowers, like plants, should be classified as either characterised by beauty of form or beauty of colour. These possessing the former should be arranged so as to show individual beauty, not crowded or massed. If any greenery is used it should be of the lightest description, and not in over-abundance. Flowers only distinguished for purity, delicacy, or brilliancy of colour should be massed, and are better without greenery. If any foliage is used it should not tower above the flowers, as by so doing it detracts from their distinguishing qualities."

Most Orchids, and all flowers that Nature (the great teacher) places on erect stems or long arching racemes well above the foliage, should be placed in vases or glasses with a narrow orifice, whether such receptacles are cylindrical, tubular, or bottle-shaped at their base. If deciduous, *Calanthes*, *Nerines*, *Belladonna Lilies*, or the beautiful and brilliant *Hæmanthus Kalbreyri*, were used as a central bank to a dinner table, it would become necessary to allow them to rise from a groundwork of Ferns or *Selaginella*.

Fern lovers will be able to put their plants to use in other ways, apart from using them in a cut state. In fact, a beautiful table might be made with different varieties of Ferns alone, or associated with red berries or flowers.

In the *Journal of Horticulture*, April 29th, 1897, at the end of the article on the arrangement of houses for effect, I say—"Plants flowering without leaves ought to be arranged rising from a bank of greenery."

To take each comment of Mr. Strugnell's as it appears on page 375. He says taste is not uniform or developed on any fixed principles, and that it is a question of giving satisfaction to the employer and also to oneself; he thinks taste becomes a stern necessity when it is exercised daily, and is of opinion that continued variations are necessary to success; and, further, the person, he says, is yet unborn that can teach another what is really beautiful. Age and opportunity are the coigns of vantage on which he rests his assertions. If taste is not based on certain fixed principles, then the writings of æsthetic teachers, from the ancient Greeks, including Socrates, Plato, and Aristotle, down to the modern teachers Leasing, Alison, Burke (our immortal orator), Hogarth, and



FIG. 76.—NERINE ELEGANS ALBA.

Ruskin, have been in vain. But I say that unless the attribute of form and colour beauty are clearly distinguished in the mind of the decorator, an artistic effect, if produced at all, is the result of mere accident. Where decorations are daily carried out they may be, in the eyes of an artist, anything but tasteful—unless Mr. Strugnell considers continued variety to be one of paramount importance.

Again, this craving for variety is responsible for much unsatisfactory decoration. We stand before a noble piece of architecture—one of our old cathedrals, and are transfixed with admiration, because combined with the intricacy of exquisite ornament is harmony, uniformity, symmetry, and proportion. It is like a jewel, although in different parts it seems an undivided whole. So with a dinner table—though composed of different parts, its colour and design should be an undivided whole.

Whatever I have written bearing on this subject in the *Journal* has been done not in any spirit of fault-finding, nor to teach those of years of experience, but to point out to those who are young in years and of small experience the lines that artists follow. The success they achieve depends alone upon the power to observe and feel whatever is grand and beautiful in the world around. But this knowledge is one of imperceptible growth—slow but sure. Beautiful surroundings make beautiful lives, and he who has high ideals, and seeks for beauty as for hidden treasures, will surely not go unrewarded.—F. STREET.

THE YOUNG GARDENERS' DOMAIN.

HUMEA ELEGANS.

HUMEA ELEGANS, on account of its graceful beauty and hardiness, is a most delightful plant for decorative purposes for front halls and conservatories, or even dotted about the pleasure grounds. It is of easy culture, and is, for this reason possibly, neglected and elbowed out to make room for novelties. A few notes on its culture may be of interest. To start at the beginning, the seed should be sown some time in July in pans, and placed in a propagating pit or warm house. The greatest care must be exercised in crocking, and a very good plan to follow is to water the pan of soil, and let it drain well before sowing, which should be done thinly, and slightly covering the seeds. An important item to observe is not to over-water at any period of growth, especially while the seed is germinating or the seedlings are in a small state.

As soon as the young plants are large enough to handle they should be potted singly in small 60's, but the soil must not be pressed firmly. Afterwards remove them to their former quarters until they are established, when they should be placed into a cooler structure. In a short time they will have filled their pots with roots, and require removal to 5-inch or 6-inch pots, in which size it will be well to winter them. They like a dry atmosphere during the winter, and a temperature of about 40° is quite sufficient. By about the middle of February they may be given their final shift into 10-inch or 12-inch pots, according to the growth they have made.

The soil best suited to them is one-half good loam, and the rest leaf soil and sand, and the compost should be used as rough as possible at all times. As the plants gain size a little bonemeal or other artificial manure might be added. The best stimulant that can be given is cow manure, and if they cannot be watered with it, a layer on the surface of the soil will be beneficial. If a few plants are required to come into bloom as early as May they should be put into heat by the beginning of February, but the temperature ought not to exceed 60°. If they are not wanted until a couple of months later it is best to grow them as cool as possible. These grown cool will make the best plants. The chief pest that attacks them is green fly, which can easily be removed by fumigation. The variety *purpurea* will be found the best for all purposes.—S. S.

HARDY PLANTS FOR FURNISHING.

THERE are few places, I think, where hardy plants are not forced in greater or lesser numbers during the winter months, and though it would require an abler pen than mine to give a detailed article on this subject the following may be of interest to some young fellow juniors. At the normal time of flowering in the open we take little notice of some of those named; but when forced, and flowers are scarce, their presence is warmly welcomed. One of the easiest and earliest to force is *Doronicum plantaginifolium*, which produces yellow flowers in great profusion if the crowns were well ripened. *Heuchera sanguinea* is a prolific bloomer if good plants are well established in pots or boxes, and their rich coral-like flowers are very useful for bouquet work. Two other useful plants are *Dielytra spectabilis* and *Polygonatum multiflorum*, commonly called Solomon's Seal.

If we take this class of plants for furnishing, Funkias must not be omitted, their foliage being even more valuable than their flowers, which are produced on spikes, showing clear above the bright green leaves. Grown in various sized pots they are indispensable for edging groups. There are different varieties. One of the best is *F. subcordata grandiflora*; with its light green foliage and handsome white flowers it makes a good specimen plant. If placed in gentle heat in early spring for a short time, then hardened in a cold frame, they will be useful all through the summer months. By the autumn their foliage will begin to die down, when they should be plunged to the rim of the pots in ashes for the winter.

Of hardwooded plants *Lilacs* are worthy of note, and are, of course, forced in enormous numbers. Most persons, I think, can appreciate a spray of white *Lilac* when grown outdoors, and doubly so in the winter months. *Virginalis* is a grand variety, as is *Charles X.* also *Persian White*. If these are not procurable the old purple can be had white, or nearly so, by starting the plants in a brisk heat in a stove, and then transferring to a heated Mushroom house, from which light is excluded. *Prunus sinensis flore-pleno* is easy to force, and is a most attractive plant, either in bush or pyramidal form. *Choisya ternata*, with its white fragrant flowers, is valuable for buttonholes, bouquets, and sprays. As a foliage plant, wintered in a cold frame, *Veronica Andersoni variegata* is hard to excel, and grown in bush form it would ornament a gentleman's table.

One remark I should like to pass in connection with all forced plants is, that great care should be taken with those intended for further use. They must be gradually hardened in a cooler house, and when placed outdoors have a warm sheltered spot, if only for a few days, to get all growths well ripened. In this way good results will follow, but neglect this important point and failure will inevitably accrue.—PARVO.

TRADE CATALOGUES RECEIVED.

Dicksons & Co., Waterloo Place, Edinburgh.—*Fruit Trees*.
Fisher, Son, & Sibray, Ltd., Sheffield.—*Trees and Shrubs*.
Vilmorin, Andrieux, & Co., 4, Quai de la Mégisserie, Paris.—*Seeds of Trees and Shrubs*.
T. S. Ware & Co., Ltd., Hale Farm Nurseries, Tottenham.—*Lists of Bulbs and Specialties*.



HARDY FRUIT GARDEN.

Winter pruning Fruit Trees.—All the leaves having now fallen from trees and bushes, a commencement may be made with the important operation of winter pruning. There are few forms of trees which do not need some attention in this matter. The present month is the best season for carrying out the work, inasmuch as considerable spells of suitable weather prevail. Mild and dry or cold and dry, but not frosty, wet, or snowy weather should be chosen. The work can be carried on expeditiously without ill effects to the trees or inconvenience to the operator when all conditions are favourable.

Pruning is governed by the form of tree and the variety of fruit. The method of pruning bush and pyramid trees is different from standard trees, which are allowed to grow without restriction. All wall fruits are not pruned alike, and the treatment of small bush fruits varies. A few hints may be given on each form.

Bush Trees.—Bush trees are frequently grown with numerous branches extending from very short stems, and well shaped specimens form pleasing and compact trees, which ultimately possess branches of considerable length, well furnished with fruit buds to their extremities. The aim of the cultivator should be not to crowd the branches from the first, never allowing any to remain closer together than a foot. The winter pruning of these consists in shortening the side growths to three buds, thinning out and reducing the length of elongated spurs, also removing useless weak and dead wood wherever found. The leading shoots may be shortened as closely as the side growths if the branches have reached sufficient length. If not, shorten only two-thirds, leaving about a foot of new growth.

Pyramid Trees.—Pears are chiefly grown on this form of tree, succeeding better than Apples, which do not like the close restriction. In forming pyramids, the branches must be trained longest at the base. They ought not to be originated too closely, or be allowed to fork, which assists largely in crowding the trees. The side shoots on each branch require to be pruned back to two or three buds at each winter pruning. When the clusters of spurs are not originated thickly, or permitted to remain in a crowded state, the growths will be of a shorter, more robust, and sturdier character. Many of the shoots may not advance in length, but instead form fruit buds, and such practically need no pruning back. The leader of each branch must be shortened not more than a foot yearly until full extension is reached, when close annual shortening is necessary. Spray or sappy growths starting from dormant eyes in the old wood ought to be rubbed out early, but if remaining at the winter pruning cut them out entirely.

Standard Trees.—Thinning out, not shortening any branches or growths, is the best treatment to accord standard trees. Provided they have always had sufficient room for extension, with free access to light and air on all sides, the trees will be well balanced and shapely. Light annual thinning will maintain the trees in good form and productiveness, but if pruning has been neglected they may have become crowded with branches crossing and intersecting, which need removing. The centres of the trees must be kept fairly open, cutting out inferior growths entirely.

Horizontally Trained Trees.—Suitable varieties of Pears trained in this form against walls prove to be very productive if properly planted, and the branches are originated so that from the first they are never crowded. Crowding is very injurious, especially to the lower branches, which are shaded by these above, and frequently choked also with too many clusters of spurs. The latter under unfavourable conditions soon become elongated in their search for light and air. There should be no hesitation in thinning-out any branches closer together than 12 inches. If when some are removed the space between the rest is 16 inches, there will be no disadvantage in the increased room. The spur clusters, too, may be thinned-out, long and gnarled portions reduced, the side growths being shortened to one or two buds.

Cordon Trees.—Cordons on walls and fences are not difficult to manage. If single cordons they ought to be planted not less than 20 inches apart, but better 2 feet, and should have a fairly good extent of space to be trained on. Diagonal training is the best for walls and fences, as by this system a greater length of branch may be secured, and the depression causes the growths to be more equalised in vigour. Spurs ought only to be originated thinly, and prevented extending too far from the main branch. Side shoots must be pruned in annually to one or two buds, and the leaders allowed to extend until the full space is furnished.

Far-trained Trees.—Apricots, Peaches, Nectarines, and Morello Cherries are grown with a good supply of young wood annually reserved and trained-in, as by this system the best crops are secured, but frequent attention is required by the trees during summer and autumn in laying-in young wood and cutting-out old. Useless or superfluous wood or branches may be removed now, but the principal pruning of Apricots, Peaches, and Nectarines should be deferred until February. Morello Cherries may be pruned, and the shoots nailed or tied-in at the earliest opportunity. Plums and Sweet Cherries may have main branches spread thinly over the space, and these furnished with spurs. Where there is

room young wood may be laid-in. It is useful to furnish fruiting wood in addition to spurs, or to occupy the place of any old or worn-out branches.

FRUIT FORCING.

Cucumbers.—The weather has been wet and cold, and the growth suffers more than when there have been bright intervals. Light is very important in all forcing operations, especially in winter, therefore the glass should be kept clean both inside and out. Use warm sweet soil, and not very wet, for earthing over the roots as they show at the sides of the ridges or hillocks. A few sweetened horse droppings spread on the surface will attract the roots and afford nutriment to them when watered, also supply some ammonia to the atmosphere. This is preferable to liquid manure unless the plants are growing in limited borders, boxes, or pots, then copious supplies will be necessary. Apply it weak and tepid, and not too often. Sufficient moisture will be secured by damping the floors, walls, and other surfaces other than the plants in the morning and in the afternoon of fine days; but avoid excessive moisture, and do not supply water to the roots till the soil is becoming dry, then afford a soaking. Stopping and thinning will not be much required, yet must not be neglected, as crowding is one of the greatest evils in the growth of winter Cucumbers. Overcropping is still a greater malpractice, and allowing the fruits to needlessly hang after they attain a size fit for cutting serves only to weaken the plants and prevent other and younger fruit swelling. It is sometimes necessary to fertilise the pistillate blossoms to make sure of the fruit swelling, but the practice is seldom necessary for healthy plants.

Mildew.—This is often troublesome. It may be combatted by dusting the affected parts with flowers of sulphur, or a light brushing over the hot water pipes with a cream of sulphur and skim milk is useful against it, also red spider and white fly. Thrips are best destroyed by fumigation with tobacco or vaporisation with nicotine essence. The latter destroys mealy bug as well as aphides and thrip. The foliage at this time of year is tender, therefore fumigation or vaporisation is better practised moderately on two or three consecutive evenings, always taking care not to give an overdose.

Pines.—*Young Stock.*—Well ventilated pits or small houses properly heated are most suitable for young Pine plants, as they can be kept near the glass, and they should be given plenty of room so as to secure and maintain a sturdy habit. A night temperature of 55° to 60°, with 65° in the daytime, will keep young stock gently growing, admitting a little air at the top of the house at 65°, leaving it on all day, but do not let the temperature fall below that point, and when it advances to 75° from sun heat a free circulation of air must be allowed. The bottom heat may be kept steady at 80°. Avoid a moist atmosphere, an occasional damping of the paths will suffice. Give water only when necessary, always when the soil becomes dry, and then afford a thorough supply of weak liquid manure.

Plants to Ripen Fruit in May and June.—This is a very important time—the London season—to have fresh ripe fruit. Home-grown Pine Apples far excel imported ones in appearance, and are juicier, richer flavoured, and more pleasing in aroma. They are great ornaments at dessert. When a supply is required at the time named, and plants are not showing fruit, it will be desirable to select from those started in March last, which have completed growth, and are now in a state of rest. A stout base is the best indication of starting into fruit when subjected to a higher temperature both at the roots and in the atmosphere. The plants are best placed in a structure to themselves. Where this cannot be afforded they must have a light position in the house where the fruiterers are swelling. Maintain a night temperature of 65° in the fruiting department, 5° less in the morning of cold nights, and 70° to 75° by day, but in very severe weather a few degrees lower is preferable to extra sharp firing.

Peaches and Nectarines.—*Earliest Forced House.*—Trees started at an early date in previous years swell their buds promptly without much excitement from artificial heat, but those forced for the first time are slower in starting into flower. These trees must not be hurried, and with the buds swelling and advancing for flowering the atmosphere must not be kept close, as it is important that the blossom advance steadily and have time to develop a strong flower perfect in all its parts. When the atmosphere is kept close and too moist the flowers are weakened if the temperature be high; if low little progress is made, and the organs are stunted and effete. Admit a little air constantly at the top of the house, and above 50° it should be increased correspondingly with the temperature, but not allowing a decline below 50° in the daytime, and with sun heat an advance may be allowed to 65°, closing for the day before the temperature has receded below 55°. A temperature of 40° to 45° is ample at night, or in mild weather 50°. When the flowers are advanced so that the anthers are showing, cease syringing, but afford a moderate amount of air moisture by damping the borders, paths, and walls in the morning and early afternoon. Examine the inside border, and if necessary afford a thorough supply of water or liquid manure. The surface soil is often deceptive, being kept moist by syringing, therefore supply enough to moisten the soil through to the drainage, for surface moistening does very little good.

Second Early Forced House.—If the trees are very early varieties, such as Alexander and Early Louise Peaches, Cardinal and Early Rivers Nectarines, ripe fruit may be had in late April or early May by starting at the new year; but if the trees are such as Hale's Early, Stirling Castle, or Royal George Peaches, and Lord Napier and Stanwick Elruge Nectarines, the fruit will not ripen until the end of May or early in June. This must be taken into consideration by growers. In either case the

house should be closed at the middle of this month, fire heat only being used to exclude frost. The trees may be sprinkled occasionally on fine days in the morning and afternoon, allowing time for them to become fairly dry before night. Do not permit the temperature to exceed 50° in the daytime without full ventilation. Supply water or liquid manure to inside borders, and protect outside with a little litter or dry leaves.

Succession House.—Movable roof-lights are much the best for this structure, as the trees can be exposed to the elements for the winter. The fogs and damps of winter, with the drenching rains and snow, suit Peaches in well drained soil, the trees being invigorated and the soil enriched. If the houses have fixed roof-lights ventilate to the fullest extent in all but very severe weather. Proceed with the pruning, bringing matters in respect of cleansing the house and trees to as speedy a conclusion as possible.

THE BEE-KEEPER.

VARIETIES OF BEES.

WITH a view to assisting a beginner, and others who have recently sought information regarding the varieties of bees, we will briefly give our experience of them from a honey-producer's point of view. Obviously it is altogether a different matter when bees are kept solely for their beautiful markings, or when honey production is only a secondary consideration.

THE NATIVE BLACK BEE.

The variety most frequently met with in this country is the native black or brown bee, and after a wide experience of the imported races, and also the hybrids, we are still strongly in favour of the native. It is suited to our changeable climate, is hardy and prolific, wintering well in an ordinary hive if provided with stores early in the autumn; is good tempered if not carelessly handled, and is not prone to incessant swarming, which is so troublesome to the bee-keeper when other varieties are kept. They are, moreover, good workers for either comb or extracted honey. Of course they will swarm if ample room has not been provided for them in advance of their needs, and if queen cells have been started, and the weather is favourable, the bee-keeper may make up his mind that it is useless attempting to prevent them. The plan usually recommended under these circumstances is to cut out all the queen cells, with the result that other queen cells are at once started by the bees, and the first fine day they swarm.

Our experience is when once they have the swarming mania much valuable time is saved by allowing them to swarm. If an increase of stock is not needed put the swarm in a separate hive, placing it by the side of the old stock for a few days. Then cut out all the queen cells but one from the parent stock, and if the queen with the swarm is not a valuable one, destroy her, and by adding the bees to the original stock a strong colony will result, which will in due course be headed by a young fertile queen. If the weather is favourable honey production will proceed rapidly, and a much greater surplus will be stored than if the bees were allowed to swarm according to their own sweet will. The native bee treated in the above manner will invariably do well; and showing how easily they may be kept from swarming, we may mention the fact that none of our strong colonies worked for honey swarmed during the past season.

LIGURIANS.

These, or as they are often called, Italians, were introduced by the late Mr. A. Neighbour thirty-nine years ago. They came with a great reputation, and were said to have a longer proboscis than the native bees, and were thus enabled to extract the nectar from the Red Clover. This proved a fallacy, as, like the black bees, they were unable to reach it. One of their chief characteristics is the bright yellow bands round their bodies which are so much admired, and cause them to be easily distinguished from our native bee. It is, however, difficult to keep them pure in this country, and when crossed with the blacks they are very spiteful.

CYPRIANS.

Cyprians were imported from the island of Cyprus, and are similar in appearance to the Ligurians, but are even more beautiful in appearance. They have two very bad faults, being inveterate swarmers and very bad tempered. At times they may be handled with impunity; at others, it is not safe to venture near the lives. Owing to their swarming mania they do not store a large surplus in this country.

CARNIOLANS—PUNICS.

Carniolans, and with them may be classed the Punics, are black, very similar in appearance to the native bee, but are persistent swarmers. This is their bane, as they are easily handled, and by the time the swarming mania is over the honey flow is past, and only a small surplus will have been stored by them.

HYBRIDS.

These are the result of a cross between the black and some of the foreign bees. They are invariably good workers, but vindictive, and will often follow a person a long distance with the intention of stinging him. So taking all the good and bad points of the different varieties of bees into consideration we have no hesitation in recommending our native black bee in preference to all others.—
AN ENGLISH BEE-KEEPER.



All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Flower Boxes (T. P. R.).—We do not know of a cheaper "kind of cardboard box suitable for sending flowers by post" than that with metal clips at the corners. Those without them are too fragile for the safe transit of flowers by post. We receive many crushed and spoiled in consequence. Perhaps the seedsmen or firm with whom you deal may have such article as you require.

Scale from a Pear Tree (C. C. E.).—The scale, now quite dead and not, so far as we can discover, containing eggs, is that of the Filbert scale insect, *Lecanium hemisphericum*, which is sometimes found on fruit trees, but thus far has not been found a formidable pest. Owing to its large size, and somewhat thinly disposed character, it is readily destroyed by hand, which to be effective must be performed whilst the insect is quite soft, or before eggs have been produced.

Dressing for Branch Wounds (Idem).—"Stockholm tar and boiled oil in proportion of four to one" is a good application to large wounds made in pruning. Patent knotting is chiefly used as a preventive of bleeding in Vines, as it dries more quickly and closes the pores of the wood. It should not be used on the bark. Stockholm tar four parts, and petroleum one part, forms an excellent paint for large wounds, and also for woodwork as a preservative from fungoid attacks, applying with a brush.

Violets Failing (W. R. R.).—Mere terms are trifles, however absurd it may appear to allude to rotting as "damping." By all means obtain fresh, clean stock, as we have done more than once, and had both new and original stock infested in the same bed, but much more seriously in some years than others, and eventually have had the whole stock clean again. We very much agree with your observation—"Fungoid diseases, in animals and plants, seem generally to affect things whose natural habit is too much restricted—where Nature is bent, so to say, till it cracks"—though we have not been able to induce some scientists to coincide with the view which you have put so concisely. As to the suppression of runners, the finest examples of Strawberry and Violet culture that we have seen over a rather long series of years have resulted from practically the same treatment. This has not been by the absolute prevention of runners, but by removing them before they attain to any material length, and producing a bold central crown to each plant. We do not know how many thousands of Violets are increased by offsets which consist of an aggregation of incipient crowns, but that is not the best way, except for "cracking" the constitution of the plants. We do not, however, for a moment suggest that you adopt other than the best method of increase, and we sincerely hope you will have healthy plants again.

Diseased Potatoes (W. Parker).—The specimens you forwarded are being subjected to a microscopical examination, of which the results will be published in our next issue.

Address (E. J. S.).—We never publish addresses in the way you suggest, but if you send a stamped directed envelope repeating your desire we may perhaps put you in the way of obtaining the required information.

Chrysanthemums for Late Propagating (Mum).—The following naturally dwarf growing Japanese varieties are suitable for your purpose. The cuttings should be inserted at the end of April, or even the first week in May. Vivand Morel, Charles Davis, Lady Hanham, Souvenir de Petite Amie, Mons. Hoste, Emily Silsbury, G. W. Childs, John Shrimpton, Madame M. Ricoud, Pride of Madford, Mutual Friend, Oceana, and Mrs. J. Ritson.

Forcing Lily of the Valley (T. P. R.).—The treatment you describe is correct if properly carried out. The plants ought to come forward gently and strongly, but particular care must be taken not to have the moss too wet, or it will cause the leaves and spikes of flowers to decay. It is also most important to keep the plunging material and soil in the pots moist. The drying nature of the bottom heat is likely to interfere with this, and if not prevented, failure may ensue. The bottom heat should not exceed 85°, nor the top heat 70° to 75°. It is better to have the bottom heat about 10° higher than the top heat, so as to secure both leaves and flowers.

The Heaviest Bunch of Grapes (C. E. B.).—The disparity you mention as to recorded weights of Grapes is explainable in this way. When Mr. Dickson's huge bunch was cut and weighed by him at home in the presence of two witnesses, it was found to turn the scale at 26 lbs. 8 ozs., and that is the authority for the statement which you have discovered. But then, as you know, all weights and scales are not exactly alike, and it is also known that Grapes lose weight after they are cut from the Vines, and the larger the bunch and the greater the lapse of time that occurs before the second weighing, the greater is the loss. Mr. Curror's bunch was said to have lost 3 ozs.; but assuming there was no error in the scales and weights used, Mr. Dickson's bunch must have lost 9 ozs. to have made it equal to Mr. Curror's when weighed by the judges in the presence of officials and press representatives at Edinburgh on the morning of September 15th, 1875. This tied-out and well-thinned bunch of fine berries we can understand losing twice the weight of the other, with its wedged mass of practically unthinned berries; but whatever the loss of either, and whatever their weights at home, the test for awarding the prizes was the weights of the bunches at the show, as determined by the same men and machine. We were present at the weighing, and very well remember Mr. Curror's bunch turning the scale at 26 lbs. By exactly how much we could not see, nor could other onlookers at a little distance, for there was some crowding, and the light, soon after 6 A.M. (the time of weighing), was not very clear. We remember that in the excitement of the moment the weight was variously announced as 26 lbs. 1 oz. by one person, 26½ lbs. by another, and 26 lbs. ¼ oz. by a third. In some way or other 26 lbs. 4 ozs. eventually seemed to become accepted as correct. For two reasons we are inclined to think 26 lbs. 1 oz. was the exact weight. (1), Because it was well understood at the time that 24 lbs. 4 ozs. was Mr. Curror's weight of the bunch when cut, and was so to say, "in everybody's mouth," whereas in our report (page 245, *Journal of Horticulture*, September 16th, 1875), telegraphed the same morning, the show weight is given as 26 lbs. 1 oz.; and (2) we suspect that was correct, because at the end of a long controversy on the subject of the historical competition the late Mr. William Thomson wrote (page 397, *Journal of Horticulture*, November 4th, 1875) as follows:—"I lifted the bunch clean off the board with the T piece of wood in my hand and the single stem between my fingers, and held it till it was suspended at the end of the balance, while 26 lbs., made up of various weights, were at the other. It turned the scale with that weight against it, and 1 oz. was added. This was its exact weight. It had only lost 3 ozs. of the weight rendered by Mr. Curror during the twenty-four hours it had been cut, the greater part of which time it had been in a dry hot room." That is a precise statement, and the reference to the weight previously given by Mr. Curror seems to impress it with inherent accuracy. Mr. Thomson went on to say:—"I removed the bunch from the beam, and replaced it on the board. While this was being done Mr. Dell of Stoke Rochford, one of the judges, with someone assisting him, removed Mr. Dickson's bunch, and placed it in like manner, when it was found that with the 1 oz. removed it would not balance the 26 lbs.; 1 lb. was then removed, and, according to my recollection, 10 ozs. added, and not 15 ozs., as some have written." We suspect Mr. Thomson was right about the 10 ozs., because both Dr. Hogg and the present writer took down the weight on the spot, which was forthwith telegraphed to London; and Mr. Dickson's bunch appears in our report on the page above cited as weighing 25 lbs. 10 ozs. One fact, however, no one who was present will call into question—namely, that Mr. Curror's bunch was found to weigh over 26 lbs., and Mr. Dickson's under 26 lbs. by the same scales at the same time, and therefore the unique honour rests with Mr. Curror of having exhibited the heaviest bunch of Grapes known to the world. The weights given in Barron's "Vines and Vine Culture," and those in the "Fruit Growers' Guide," which you quote, agree; but in the last named work is also given Mr. Dickson's weight of his elephantine bunch when cut from the Vine, but it was certainly not the heavier in the great contest at Edinburgh, and we suspect, for the reasons stated, that the exact weights of the bunches there were 26 lbs. 1 oz., and 25 lbs. 10 ozs. respectively. We are much obliged by your letter.

Grapes (S. T. B).—The variety appears to be Gros Colman, which requires more time to colour than do most other Grapes. If you could start the Vines a little sooner, and also crop somewhat lighter, improvement in the direction indicated might be expected. The leaves sent are clean and healthy, but are not some of the others rather overcrowded?

Basic Slag for Mixing with Turves for Chrysanthemums (Muns).—Certainly, basic slag phosphate would be of use in the culture of Chrysanthemums for exhibition, as it would afford a supply of phosphoric acid slowly to the plants, and also lime, this acting well on the organic matter of the turves, and promoting conversion into available plant food. The article should be sprinkled amongst the turves in stacking in 3 inch layers, at the rate of $\frac{1}{2}$ lb. per square yard, in order to be in condition for use by the plants at the time of the final potting.

Disinfecting Cucumber Houses Infested with Mildew (W.).—There is no better disinfectant for this pest than heating the hot-water pipes to as near boiling point as possible, and whilst in that state coating them with a cream formed of flowers of sulphur and skim milk, or run a wet cloth along the pipes and sprinkle flowers of sulphur on them whilst wet; two persons, one with the wet cloth and the other with the sulphur in a dredger, doing the work very quickly. The house must be closed, making as tight as possible, and the hot-water pipes kept hot for at least an hour, then allowed to cool down. This will destroy all the active germs reached. If any resting spores were scattered in the removal of the affected plants, nothing better could be used on the ground for destroying them than boiling water. Bordeaux mixture has no effect whatever upon them. If the mildew appear another season promptly use a little sulphur on the hot-water pipes, or better, allow some to remain on them of that now applied.

Manure for Mushroom Beds or Ridges (B. C. J.).—No doubt many persons are in much the same position as yourself in being unable to obtain an adequate bulk of manure from horse stables at once or within a few days for preparing for ridges or beds. We have known excellent results accrue by the use of manure which has accumulated for a fortnight or more when it has been properly treated afterwards. The present is a very good time for procuring a supply, and with what you have and can obtain you might venture on the experiment. You may or may not succeed in your object. We know of some persons who would succeed with certainty, while there is always the possibility of a beginner failing in a first endeavour in this, as in many other things. If you fail you will at least have the manure, while you will gain experience while only losing a small amount for spawn. There is, however, no valid reason why you should fail. When the manure comes to hand have it well shaken through with forks, easting out all long clean looking straw, but retaining short stained portions. If it is dry sprinkle it well as it is placed in a heap to ferment. As it is thrown together in layers of a foot or so cast on a handful of salt evenly. If all is moist fermentation should take place in a few days. If it does not do so within a week shake the heap over again, and sprinkle guano through it in the same way as the salt; also if not moist use more water. The larger the heap the better with only a few cartloads. When heating briskly turn it again, and if at all dry add more water. With two more turnings at intervals of three or four days heating, it may be sweet enough if otherwise in suitable condition for making up, or it may not. It should be in a brown moist and somewhat greasy state, but not decidedly wet, and not offensive when a handful from the centre of the heap is submitted to the nasal test. You must seek for a warm sweet, blend, damp enough to compress freely into ridges or cone shaped beds, making the mass firm, as shown in "Mushrooms for the Million." But as a beginner do not have the ridge less than 3 feet wide at the base, a foot at the top, and 3 feet high. A cone may be as shown in the book. After the temperature has ceased rising, as tested by trial sticks, not before, insert spawn as described; cover with litter, and a few days after with good moist loamy soil made firm. After this the most important matter is to prevent the bed getting either dry or cold, by litter coverings, thick or thin according to the weather. If a thermometer laid on the bed, under the straw, registers 55° to 60° for three weeks, the bulk will be warm enough for the spawn to "run," and in due time produce "fruit"—i.e., Mushrooms. When dry spring weather occurs it may be very desirable to sprinkle the coverings to prevent the beds or ridges drying. Keeping them moist, by preventing evaporation, is altogether better than letting them get so dry as to necessitate the watering of the soil. If anyone should ask, "What is the difference?" it may be stated it is that between success or failure, nothing more or less.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that

number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (Fred).—The yellow Apple is Wormsley Pippin, one of Mr. T. A. Knight's best seedlings, and named after the place of his birth, increase it by grafting; the red one is Cox's Pomona. (H. K.).—1, resembles a small specimen of Sandringham; 2, Normanton Wonder; 3, Beauty of Kent. (E. W.).—1, a varietal form of Cat's Head; 2, imperfectly formed specimens of King of the Pippins. (T. W. M.).—1, Dumelow's Seedling; 2, Yellow Ingestrie; 3, Tower of Glamis; 4, Small's Admirable, small specimen; 5, Beurré Rance; 6, probably Beurré Clairgeau. (R. M. W.).—It is impossible for anyone to say definitely with only one specimen to guide them, but from that before us we incline to your opinion; 2, yes, the name is correct.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (J. T.).—1, Woodwardia radicans; 2, Polystichum proliferum, an exotic indigenous to Brazil; 3, Pteris cretica albo-lineata; 4, Phlebodium aureum; 5, Adiantum gracillimum. The Apple is a varietal form of Blenheim Pippin. (H. S.).—1, Masdevallia polysticha; 2, Odontoglossum Andersonianum; 3, a poor form of O. crispum. (W. K.).—1, Euonymus europæus; 2, Jasminum nudiflorum; 3, Chimonanthus fragrans. (J. L.).—1, Begonia nitida; 2, B. metallica.

COVENT GARDEN MARKET.—DEC. 7TH.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve ...	1	3 to 3 6	Lemons, case ...	30	0 to 60 0
Cobs ...	50	0 55 0	St. Michael's Pines, each	2 6	5 0
Grapes, lb. ...	0	10 1 6			

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0	0 to 0 0	Mustard and Cress, punnet	0	2 to 0 4
Beans, $\frac{1}{2}$ sieve ...	0	0 0 0	Onions, bushel ...	3	6 4 0
Beet, Red, doz. ...	1	0 0 0	Parsley, doz. bnchs. ...	2	0 3 0
Carrots, bunch ...	0	3 0 4	Parsnips, doz. ...	1	0 0 0
Cauliflowers, doz. ...	2	0 3 0	Potatoes, cwt. ...	2	0 4 0
Celery, bundle ...	1	0 0 0	Salsafy, bundle ...	1	0 0 0
Coleworts, doz. bnchs. ...	2	0 4 0	Scorzonera, bundle ...	1	6 0 0
Cucumbers ...	0	4 0 8	Seakale, basket ...	1	6 1 0
Endive, doz. ...	1	3 1 6	Shallots, lb. ...	0	3 0 0
Herbs, bunch ...	0	3 0 0	Spinach, pad ...	0	0 0 0
Leeks, bunch ...	0	2 0 0	Sprouts, $\frac{1}{2}$ sieve ...	1	6 1 9
Lettuce, doz. ...	1	3 0 0	Tomatoes, lb. ...	0	4 0 9
Mushrooms, lb. ...	0	6 8	Turnips, bunch ...	0	3 0 4

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6	0 to 36 0	Ficus elastica, each ...	1	0 to 7 0
Aspidistra, doz. ...	18	0 36 0	Foliage plants, var., each	1	0 5 0
Aspidistra, specimen ...	5	0 10 6	Lilium Harrisii, doz. ...	12	0 18 0
Crotons, doz. ...	18	0 24 0	Lycopodiums, doz. ...	3	0 4 0
Dracæna, var., doz. ...	12	0 30 0	Marguerite Daisy, doz. ...	6	0 9 0
Dracæna viridis, doz. ...	9	0 18 0	Myrtles, doz. ...	6	0 9 0
Erica various, doz. ...	9	0 24 0	Palms, in var., each ...	1	0 15 0
Euonymus, var., doz. ...	6	0 18 0	" specimens ...	21	0 63 0
Evergreens, var., doz. ...	4	0 18 0	Pelargoniums, scarlet, doz.	4	0 6 0
Ferns, var., doz. ...	4	0 18 0	" " " " " "	8	0 10 0
" small, 100 ...	4	0 8 0	Solanums, doz. ...	6	0 12 0

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch ...	2	0 to 2 6	Marguerites, doz. bnchs.	2	0 to 3 0
Bouvardias, bunch ...	0	4 0 6	Maidenhair Fern, doz.		
Carnations, 12 blooms ...	1	0 2 0	bnchs. ...	4	0 6 0
Chrysanthemums, per bch. ...	0	3 2 0	Mignonette, doz. bnchs. ...	1	6 3 0
" specimen ...			Narcissus, doz. bnchs. ...	5	0 6 0
" blooms, per doz. ...	2	0 5 0	Orchids, var., doz. blooms	1	6 9 0
Eucharis, doz. ...	3	0 4 0	Pelargoniums, doz. bnchs.	4	0 6 0
Gardenias, doz. ...	1	0 2 0	Roses (indoor), doz. ...	2	0 4 0
Geranium, scarlet, doz.			" Red, doz. ...	2	0 0 0
bnchs. ...	0	6 0 9	" Tea, white, doz. ...	2	0 3 0
Lapageria (white) ...	1	6 2 0	" Yellow, doz. (Perles)	2	0 3 0
" (red) ...	1	0 1 3	" Safrano (English) doz.	1	0 2 0
Lilium lancifolium, white	3	0 4 0	" Pink, doz. ...	2	0 4 0
" pink ...	3	0 4 0	Smilax, bunch ...	1	6 2 0
" longiflorum, 12 blooms	6	0 8 0	Violets ...	0	9 2 6
Lilac, bunch ...	5	0 6 0	" Parme, bunch ...	2	9 3 0
Lily of the Valley, 12 sprays	0	9 1 6			



BIRMINGHAM'S JUBILEE.

THIS year of grace 1898 sees two great events in the Midland capital of Birmingham—that town given over to every kind of hardware manufacture, from a steam engine to a steel pen, or a duplex burner for a paraffin lamp.

But these two great events are not at all in connection with her home manufactures, except as far as they relate to the food production for the great multitude which throng her streets. We refer to the exhibition held by the Royal Agricultural Society in June, and to the Fat Stock Show opened November 26th, which on that date completed its fiftieth year of existence. We wonder how many, if any, of the actual founders of that show are still living? We wonder, if living, what they think of the giant strides made by their nursing? We wish we had a few figures to refer to to show how the child has grown, till it only yields the first place to the Christmas show in London. Norwich, we believe, opens the ball, but Norwich is rather difficult of access, lying as it does in East Anglia, whereas Birmingham is as central as London itself, and with its wonderful railway facilities, invites both exhibitors and visitors.

What a levelling thing a show is, and how all sorts and conditions of stock meet in a show ring! No, we must hardly say that, as it would imply that some of the sorts must be bad. We do not mean that for a moment. No bad stock is there. We should rather speak of it as good, better, best. That is the fairest way, and will hurt no one's feelings. Then look again at the exhibitors. We begin with Her Gracious Majesty, her Royal son and heir, at least one duke and duchess, earls and barons, with their ladies, north and south country baronets, country gentlemen, and plain farmers. Here all are on equal ground, and it is by merit of their exhibits they stand or fall.

Birmingham does its share by preparing a handsome prize list, and silver cups seem much in evidence. Three of these vessels are valued at £105 each, and that presented by Her Majesty is put at £50. Numerically the show is hardly as large, taken all round, as in past years. This is owing, in a measure, to a Scottish show held this week, and also to the fact that the fat porker has to stay at home owing to swine fever regulations. When will this plague be stayed? In the list of prizewinners is given not only the age but weight, and we are rather struck by one fact that in two classes the younger animals take the prize, and also in two cases weigh less than the animals that stand second. Symmetry and shape have so much to do in making up nice beef. Who does not know that meat which is, to use a common country phrase, all boiling pieces?

We none of us like very fat meat, and we do not care to pay top price for that which goes into the dripping pot; hence the desire for neat, trim joints where fat and lean are beautifully marbled.

The first prizewinner among the pretty white-faced Herefords was Her Majesty, and Captain H. L. Townshend came second with Romulus. We note a very good name in this class—"Beefsteak." What could be better for an animal weighing 13 cwt. 1 qr. 15 lb.?

Among the Shorthorns, which we admit are old favourites of ours, we find her Majesty comes first with Margaret, and Mr. W. E. Learner second with Sileree. The best Devon is owned by her Majesty too, so she has reason to be proud of her stock and her stockmen. Someone must breed and buy with judgment, and someone must attentively feed.

The best Scot figures twice in the list, first as the best Scot and then as the champion animal of the show. We congratulate Lord Strathmore on the possession of Ju Ju of Glamis. We shall doubtless hear of this heifer again, when more silver cups will find their way to her owner's castle. The best cross-bred belonged to the late J. J. Colman, Esq., of Norwich, and the second to Mr. W. Paikin Moore.

We all of us prefer beef for Christmas, but we gladly turn to mutton for a change, and we find the cross-breds provide the juiciest and tenderest of eating. All these Down sheep seem especially to lend themselves to judicious crossing, and are most of them dropped early, well fed, and thus quickly mature. Time is money, and the breeder knows it. From sheep to roots seems an easy transition, and all the great seedsmen are represented. There is much complaint of the general poorness of the Turnip crop this year, but no one would think it who visited the Birmingham Show.

Then come corn exhibits. White and red Wheat with some samples of best malting Barley and black and white Oats, made a pleasing variety. We rather think Oats are not cultivated so much as they might be; they can and do yield some tremendous crops under suitable management, and we are of opinion no cereal is more valuable as food on a stock farm.

Implement makers, manure manufacturers, cake crushers, patent food inventors were all fully represented, and the visitor got his full pennyworth of sightseeing before the day was out—indeed, it is questionable whether all could be seen in a day. As a rule we each have some speciality, and turn a blind side to those other exhibits which do not appeal to our fancy.

WORK ON THE HOME FARM.

The Martinmas hirings have come and gone, and again has there been a rise in the wages of farm servants. In many places wages are as high as they were in 1875, but what makes things the more serious is the fact that many farmers find a difficulty in getting men at any price, and are obliged to engage such as are wanting both in age and in experience.

There is little wonder, then, that new labour-saving machinery is so eagerly brought up, and the only solution to the agricultural labour problem seems to be the substitution of machine for hand labour wherever possible. Higher wages could be given individually to the smaller number of men, with the result that intelligent men would be retained to farming instead of driven away to the manufacturing centres.

Early sown Wheat came up well and quickly, and looks very promising. Later sown is lying longer in the ground, and the frosty nights will postpone its appearance.

Thrashing still continues, and the colder, drier weather, is favourable for it. Wheat turns out well, and will be quite up to expectations, but the markets are disappointing. There will not be much inducement to sow more Wheat in February if the price keeps down at 28s.

Barley turns out well, but there is a too large proportion of tail corn, and the samples are not as fine as we expected. Demand for fair qualities of Barley is good, and prices are hardening a little.

Ploughing is still the order of the day, and, except for the delivery of grain and Potatoes, will continue to be until the new year.

Extra men are now paid off, and, as usual in our neighbourhood, find winter work in the woods, which are very extensive. Besides the men necessary to work the horses and attend to the stock, only two men are retained to attend to the fences and do odd jobs.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
1898. November and December.		Barometer at 32°, and Sea Level	Hygrometer		Direction of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Tempera- ture.		
			Dry.	Wet.			Max.	Min.	In Sun		On Grass
		inches	deg.	deg.		deg.	deg.	deg.	deg.	inches	
Sunday	27	29.170	41.7	40.8	N.W.	44.9	45.8	40.1	57.3	35.0	—
Monday	28	29.374	34.5	33.9	N.	42.9	41.2	32.3	45.2	24.9	0.107
Tuesday	29	29.588	36.8	35.5	N.	42.2	40.4	34.3	58.6	31.3	—
Wednesday	30	29.844	35.4	34.6	W.	41.1	49.1	29.1	53.2	22.9	0.051
Thursday	1	29.966	49.1	47.4	W.	42.1	53.1	35.4	62.2	31.0	—
Friday	2	29.765	52.3	49.5	W.	44.2	54.7	48.6	58.4	43.9	0.038
Saturday	3	29.892	51.2	51.0	S.W.	45.9	55.2	47.8	63.3	44.3	—
		29.657	43.0	41.8		43.3	48.5	38.2	56.9	33.3	0.196

REMARKS.

27th.—Bright sun almost throughout and clear night.

28th.—Fair and cold till 4 P.M., then rain till 8 P.M., and slight showers of rain later and snow in evening.

29th.—Overcast, with spots of rain early; generally sunny from 10 A.M., and fine night.

30th.—Sunny day; showers in evening.

1st.—Overcast early; fair day with occasional bright sun; overcast from 3 P.M.

2nd.—Overcast, with S.W. gale and drizzle at times.

3rd.—Rain early; generally overcast day, but a little sun in morning.

A very average winter week, but rain rather deficient.—G. J. SYMONS.

PUBLIC IMPORTANT NOTICE.

AT p. 411 of the *Gardeners' Chronicle*, under National Chrysanthemums, a very grave error appears (see my reply, p. 426, in last week's issue), and as this matter has appeared in that Journal, I would like to ask the "Public Opinion" upon the matter, of which my Catalogue is a sore contention, viz., Gaining Gold Medals with other people's Flowers and Plants. Is it right? Mr. R. Dean, Secretary to the N.C.S., writes me, there is no restriction to miscellaneous exhibitors. They may get their stuff from anywhere they please; the Medals are not awarded to the exhibitors, but to the exhibits. This letter is now in the hands of Mr. T. W. Saunders, Chairman of the N.C.S. Mr. Dean also refused to bring my letters before the committee; hence the notes in my Catalogue, which will be sent free to anyone upon application. And I ask again, How much longer are the N.C.S. going to encourage trade exhibitors to beg, buy, or borrow blooms and foliage plants, and give them their Gold Medals, in order that they may advertise "Awarded so many Gold Medals!" Is this the kind of honours Englishmen are so proud of? And how about Scotchmen?

Speaking of honours, where do my last two seasons' Novelties stand, as an exhibitor's point of view, viz., G. J. Warren, Lady Hanham, Julia Scaramanga, Lady Isobel (Incurved), Nellie Pockett, John Pockett, Mrs. J. W. Barkes, Mrs. White Popham, Mr. T. Carrington, &c.? Are these any honour? Nellie Pockett has been awarded 22 First-class Certificates or Awards of Merit; John Pockett has been awarded 20 First-class Certificates or Awards of Merit. Also the Gold Medal in Paris for "Novelties."

And how will my Novelties of 1899 stand, viz.:—
HON. W. F. D. SMITH, grandest crimson .. 10/6
LORD LUDLOW, another Australian beauty .. 7/6
MR. LOUIS REMY, the grand yellow sport from Madame Louis Remy .. 7/6
LADY ANGLESEY, pure yellow sport from Chas. Davis 7/6

And other Best Novelties which appear in my Special List Now Ready, Post Free from—

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EARLSWOOD NURSERIES, REDHILL, SURREY.

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Journal of Horticulture.

THURSDAY, DECEMBER 15, 1898.

THE JOURNAL OF HORTICULTURE can be obtained from the Office, 12, Mitre Court Chambers, Fleet St., London, post free for a Quarter, 3/9. Editorial communications must be addressed to 8, Rose Hill Rd., Wandsworth, S.W.

PRUNING VINES.

THE pruning of Vines is one of the simplest and easiest acquired of mechanical operations connected with the cultivation of the queen of fruits. What process requires less thought in the case of Vines in a sound healthy condition? Cut the ripened laterals or young wood back to one or two buds, and fairly good—1 lb. to 2 lb.—bunches of Grapes will result. Such are the most useful for keeping up a continuous supply for home use, and are also the best, because in the greatest demand, for market. The orthodox spur-pruning to one or two eyes answers best with most varieties, indeed I have had no difficulty with any when the Vines were in good condition at the roots, sturdy in lateral or bearing wood, short-jointed, plump-eyed, and the cropping not excessive. In such cases the Vines produce medium-sized bunches which invariably colour well; and is not this the estimate of quality and value?

But the close-pruning system, if persistently practised—the Vines overcropped, and the roots anywhere—often results in the production of very small bunches, and these, in course of time, too sparingly. The restriction to one or two buds at the winter pruning, and in the summer, or growing season, pinching one or two joints beyond the fruit, with closely stopping the subsequent growths to one leaf as produced, may, and frequently does, so weaken and debilitate such Vines that they produce unsatisfactory crops. The cause is seldom attributed to that of cutting away the Grapes in the pruning. Such, however, appears to be the case, for when Vines previously pruned to one or two buds, and giving too small or too few bunches, are allowed one or two extra buds at pruning time, they produce larger and more clusters of fruit.

Again, when an old rod ceases to produce a fair crop, or not any Grapes of consequence, cutting it away to the bottom of the rafter will usually result in a vigorous cane, sometimes as thick as a walking stick, yet short-jointed, and with bold eyes or buds. Such a rod, reaching to the top of the house, if shortened two-thirds, will, if duly depressed so as to cause the buds to break to the base, produce a

FACTS!!!

ARE STUBBORN THINGS.

H. J. JONES' SUCCESSES.

Sept. 6, 1898	N.C.S. Exhibition	SMALL GOLD MEDAL
Oct. 11	.. N.C.S. Exhibition	LARGE GOLD MEDAL
Nov. 8	.. N.C.S. Exhibition	LARGE GOLD MEDAL
Nov. 17	.. (Edinburgh) Scottish Horticultural Association..	GOLD MEDAL
Nov. 24	.. Dundee Chrysanthemum Exhibition.. ..	GOLD MEDAL
Dec. 6	.. N.C.S. Exhibition	GOLD MEDAL

THE ABOVE FACTS SPEAK FOR THEMSELVES.

and are better than volumes of brag and bombast, and prove the superiority of the

RYECROFT RESTED STOCK.

which, though grown so near London, is healthier than country-grown stock, and up to the present time has not been attacked with the Rust. Thousands who have visited my Nursery and growers of my stock can testify to the truth of this.

WORTH POUNDS

My Chrysanthemum Catalogue is not a Catalogue in the ordinary sense, as it contains much valuable information, including a special article on Stopping and Timing nearly 600 varieties; this will be invaluable

TO EVERY EXHIBITOR,

and will be sent post free for one stamp.

A new edition of my CHRYSANTHEMUM GUIDE is in course of preparation, which will reach 100,000 with this issue; it will contain, as before, articles from the pens of the most successful cultivators of the Chrysanthemum; this will be ready early in the New Year, and will be sent post free for 7 stamps, or 1/2 bound in cloth.

I have much pleasure in announcing that I have arranged with Mr. W. Seward (the well-known raiser of many of our best Chrysanthemums) to introduce his magnificent varieties for 1899; these are the best he has ever raised, and include what has long been wanted, some grand novelties in several shades of red, from terra cotta to the richest crimson; Mrs. W. Seward, a crimson scarlet Chenon de Léché; H. J. Jones, the grandest and richest real crimson, and Mrs. Henry J. Jones, the giant incurved, are part of the set.

In addition, my own novelties include R. Hooper Pearson, the grandest yellow Jap; Lili Boutroy, large petalled white; Lord Aldenham, yellow sport from Edwin Molyneux; H. Rivers Langton, yellow sport from Mrs. W. H. Lees; Madame Leon Feyerick, yellow sport from Eva Knowles; Mr. J. T. Simpson, sport from Julia Scaramauza; Eastman Bell, crimson sport from President Borel; Mr. A. Barrett, sport from Mrs. C. H. Payne; Mr. A. H. Hall, a giant bronze seedling from Edith Tabor; Mr. A. G. Miller, a giant silvery pink; May Manser, the new large early flowering white Jap, and several others. The full list will be ready shortly, and will be sent post free on application.

Ryecroft Nursery, Hither Green, Lewisham, S.E.

No. 964.—VOL. XXXVII., THIRD SERIES.

No. 2620.—VOL. XCIX., OLD SERIES.

number of shoots the following season, some of them not showing one only, but sometimes two or three bunches on a lateral. Due selection of the growths being made, say 18 inches apart on opposite sides of the rod, removing the others, and pinching those retained, allowing a couple of leaves or so above the bunch to develop, and stopping the laterals at every leaf as made afterwards, will be suitable practice another season for producing fruit on spurs, or pruning to a couple of buds.

By continuing the rod, a cane being taken forward from the uppermost bud, another fruitful portion can be added in the second season, and so on year by year. I think it better to treat a cane from a cut-away rod on the principle of a young Vine, taking it part of the roof only every season, rather than leave it a great length the first year and let it bear a heavy crop. The latter plan brings about sterility in a very decisive manner, as, for instance, on a 20-foot length of one-year-old rod there may be twenty-two bunches, and on the next after pruning the laterals to one or two buds not more than half a dozen, and these on the strongest spurs near the extremity of the rod, because there the bearing wood is the strongest, or Grapes formed in embryo in the basal buds.

Pruning is not only a necessity of cultivation, but a means of controlling the size of the clusters of fruit, their finish and quality, and also of restoring weak and debilitated Vines to health and vigour. In some cases excellent results follow a departure from the hard-and-fast rule of close spurring. This means cutting away elongated spurs here and there to make room for new and more growth, and then prune on the best-bud-shortening principle. The buds may be three, four, or more from the base. To make sure of them is the great point, for it is sheer folly to adhere to any system that is not productive of Grapes.

With the Vines in first-rate condition and the laterals quite stout, medium-sized bunches of 1 to 2 lbs. may usually be relied on by pruning to two buds. If a few bunches of larger size are required for special occasions, leave three or four eyes on some of the laterals, others being shortened to two, in order to have the everyday clusters and the special ones on the same Vine. This is a sort of short and long spur system combined, and it answers admirably both for growing home supplies and fruit for marketing purposes.

But remember that with relatively long spurs more room is required for the increased growth, for on the exposure of the leaves to direct light depends the finish of the crop; it may be necessary therefore to cut out some weak spurs entirely. Also bear in mind that the larger bunch takes more support than the small—the 2 lb. bunch twice as much as the 1 lb., and the 4 lb. four times more than the latter. This must be prepared for at the time of pruning, as regards giving the leafage of the 4 lb. bunch four times the space as for the 1 lb. That is the reason—more leafage, more light, more nutrition—why the small or medium sized bunches invariably finish better than the large clusters, for the larger the bunch the greater the need of elaborated matter, and the inadequacy thereof is the reason why the colouring process takes longer to complete.

No system of pruning will make good defects of border, but an extension of growth and longer pruning always results in the betterment of weakly but fairly healthy Vines, and can often be practised where no other means of rejuvenation are feasible, or in which the growers have no choice.

The varieties of Grapes, no doubt, differ somewhat in requirements; some, as Gros Guillaume, Gros Marce, and Duke of Buccleuch, do not generally bear freely when closely pruned. I have, however, had bunches of about 2 lbs. weight of Gros Guillaume on the spur system far better than Gros Colman in quality; but when the weight of the bunches is more than 4 lbs. each the long pruning has to be practised, and then comes in the difficulty of colouring and a reduction of quality. Similar remarks apply to Mrs. Pince and Lady Downe's, though both are of a very different type from Gros Guillaume. Both have given the best results on the short spur system when the wood was stout, short jointed, and well ripened. Weakly Vines, on the other hand, gave larger bunches, and with greater certainty, when, instead of shortening

to one or two buds, they were left a bud or two longer. Muscat of Alexandria is rather erratic sometimes when closely pruned in showing fruit, but the same Vines left a little longer for a time and new spurs obtained from the rod, give very compact and free setting bunches when again closely spurred, so that the behaviour of the Vines requires consideration, and in this respect I have, with many others, regard to their condition when pruning, also of the peculiarities of different varieties, and the purposes for which the Grapes are grown.—G. ABBEY.

DIGGING, TRENCHING, MANURING.

EXPERIENCED vegetable growers know and value the old-established principle of thoroughly preparing the soil during the period when the greater part of the land is vacant. The soil is known to be a vast storehouse of plant food, but it is a store in which the food is more or less locked up or held in reserve according to the absence or presence of certain conditions. For instance, soil that has long laid untilled or insufficiently cultivated lacks the great essential of being well aerated. The particles lie so closely together that their adhesion prevents the entry of atmospheric air, which is of vast importance in the economy of plant life.

Strong soil in that condition also lacks pulverisation; when portions are lifted with a fork or spade, especially if moist, they are in more or less adhesive blocks. These conditions must be rectified in order that proper amelioration may be secured. Most stiff, clayey soils require long exposure, and should be broken up roughly early in the winter, so that frosts and drying winds may act upon them. Close and sour soil must be improved by drainage. It is very essential that superfluous water be removed from the subsoil.

Clay soil that is very tenacious may be improved by the addition of lime or lime rubbish, road scrapings, ashes, or any gritty substances that will assist in improving the mechanical condition of clay. Newly slaked lime acts the most quickly, and is perhaps the best method of breaking down the stubborn character of clay and neutralising the acids contained in it. A bushel of lime per rod will not be too much to apply to a clayey piece of ground. The lime combines at once with the acid in the soil, good effects soon following. The oxygen of the air is admitted, which tends to sweeten the soil, which also becomes lighter by the passing away of superfluous water either by evaporation or drainage. It also naturally becomes warmer, and plant food is liberated, as well as a supply constantly maintained.

Sometimes soils that are not clayey require an application of lime in order to improve them. For instance, in kitchen gardens where the plots or borders have been liberally manured for years there is an accumulation of vegetable matter which darkens the soil to a great extent; it is then more than well supplied with humic matter, which causes an excess of acids. In such cases an application of lime will act beneficially, doing more good than a dressing of manure.

Vegetable crops are always best grown on land where there is no competition for food and moisture by the roots of trees. In light, shallow soils the presence of trees is a serious drawback to the success of most vegetable crops, not only because of the abstraction of moisture, but the loss of food by the insufficient tilling of the soil, which cannot necessarily be dug so deeply in the vicinity of fruit trees as in an open plot of ground.

Another drawback which vegetable gardens suffer from when many large trees are growing there, is the loss of light. Where fruit trees must be grown in conjunction with vegetables, the evil may be modified to some extent by planting trees and bushes at wider distances apart. It follows, then, that the digging and preparation of the soil must be carried out according to circumstances. It is certainly not advisable to dig deeply about fruit trees if they are surface rooting. The less disturbance of the soil in some cases the better. Rather than disturb the roots, it is better to give the surface a mulching of manure, leaving it to decay; but where there are no valuable roots to preserve, dig as deeply as possible.

Bastard trenching is one of the best methods of deepening soils. The ground may be thoroughly well moved without altering the respective layers, which is important when the subsoil is poor. It is evident that to bring poor soil to the top and bury the best is an error if the ground is going to be cropped the same season.

The way to commence bastard trenching, if a good sized plot has to be dealt with, is to divide it into two equal parts. Take out a trench 2 feet wide at the end of one part and wheel it to the corresponding end of the other part. The trench may be two spits deep or one good spit, and the loose soil shovelled out. The bottom of the trench ought then to be well dug up, and a layer of manure placed on the top. Next mark out another 2 feet, and fill up the first trench with soil from this, loosening the bottom and manuring in the same way.

Follow on with the remainder, and when the last trench in the first part is ready commence the second part, filling up with soil from it. Continue until finished, when the soil taken out from the first trench will lie ready for completing the work. In narrow plots of land the soil may be dug out at one end, wheeling it to the other for filling in on completion of the trenching.

Ground that has been recently trenched will not require it again for several years; but it is advisable to dig with a spade as deeply as possible, spreading on the land previously a generous layer of partially decomposed manure, except where Carrots, Parsnips, and Beet are to be grown. These crops, however, like good soil, but it should be that which has been liberally manured for a previous crop and afterwards well worked.—E. D. S.

BULBS AND THEIR CULTURE.

(Concluded from page 413.)

THE early plants of Roman Hyacinths should by this time, November 30th, be in flower. I have already finished cutting the flowers of the first pots I placed in heat, and now have Tulips White Swan and Due Van Thol in flower, with numbers of others following them closely. Flowering them thus early is quite a simple matter, if the right course is pursued; on the other hand, a slight mistake will cause disaster, and it is no unusual occurrence to see attempts at early forcing end in failure. The secret—if secret there be—of success is to pot early, plunge, and then let nothing induce the cultivator to remove the bulbs from the plunging material till they have made at least an inch of top growth and plenty of roots. When they have reached this stage they will bear a great amount of heat; in fact, both Romans and the early varieties of Tulips seem to revel in it, so long as moisture is given in proportion to the heat.

All Tulips and Hyacinths which are introduced to the forcing house during November I place on the plunging material in propagating frames, where they are kept quite close and dark until the flower buds are just visible; a little air is then admitted, but the frame is kept shaded for a few days longer, and when the covering is removed it is done toward evening, and put on again the next day if there is the least appearance of sunshine. When there is a strong bottom heat it is sometimes necessary to remove the boxes from the frame and thoroughly moisten the plunging material, and an occasional damping with the syringe benefits the young growths. If this treatment is followed Tulips with a good length of foliage and flower stems may be obtained in November. After the present date all bulbs of the early flowering species and varieties will come on freely enough if they were potted early.

Space in forcing houses fitted with frames is just at present much in demand for forcing large quantities of Lilies; it is, therefore, convenient to know that Tulips, Hyacinths, and Narcissus may be given what I will term more "rough-and-ready" treatment. We have a Fern house with several rows of hot-water pipes under the stages. These pipes are fixed about 9 inches above the floors; this allows sufficient room to place boxes containing started bulbs under the pipes. Plenty of moisture is kept around them, and mats are hung from the stages to the ground. In this position I find the bulbs grow splendidly, and get drawn up to the required height. When the shoots are of sufficient length the boxes are removed to a bed in the forcing house, covered with paper for a day or two, and then fully exposed. This plan is one which might with advantage be adopted in many private gardens. When followed it is astonishing what large numbers of bulbs may be forced when only a very limited amount of space is at command for finishing them.

The mild weather again experienced this autumn has caused all bulbs plunged in the open air to start quickly. They will now require inspecting once a week, and all which have made growth from 1 to 2 inches in length should be removed to cold pits or frames, of course darkening them for a few days. Should sharp frosts prevail a covering of strawy material placed over the glass will afford ample protection. Some cultivators are unduly nervous in this matter, and take a great deal more trouble in protecting bulbous plants in pits than they need do. I have frequently had the soil in the pots frozen—to use a common expression—as "hard as a brick" without the slightest injury being done. In fact, when afterwards taken into heat I think they grow more rapidly for having experienced a taste of winter.

After the beginning of January all bulbs come on freely, and a succession of flowers can easily be maintained by placing in heat the requisite number two or three times weekly. The amount of artificial heat required to bring them on will, of course, vary according to the weather experienced. During frosty weather a night temperature of from 60° to 65° is generally sufficient, except in cases when they are wanted quickly for some special purpose. In such instances I have frequently kept them at a night temperature of from 70° to 75° with excellent results. When such high temperatures are given plenty of

atmospheric moisture must be maintained, and the top growth finely sprayed with the syringe once or twice daily. Care should also be exercised in stopping the fire early in the morning when the day promises to be bright. If this matter is overlooked at any time shading for a few hours should be resorted to to prevent the flowers from becoming limp, or in the case of Tulips from expanding quickly, which means a loss of substance, and often of colour in the flowers. By February and March, if the weather is bright, nearly all bulbous plants come on quickly enough if kept in an ordinary greenhouse temperature—i.e., a house which only receives artificial in order to exclude frost.

I do not feel justified in concluding this subject without dealing briefly with the matter of watering, as in this case it is one of vital importance. Thousands of bulbs grown in pots and boxes are each year partial failures through being overwatered. When they are removed from the plunging material the roots ought to be showing through the cracks of the boxes where the sides and bottom join. This seems to lead some cultivators to believe that the soil should be at once saturated with water; it is, often done, with the result that the white healthy roots soon become browned and rotten, and the flower spikes scarcely emerge above the leaf growth. The correct plan to follow, according to my experience, is to thoroughly saturate the stages or beds upon which the boxes are to be placed, maintain plenty of atmospheric moisture, damp the top growths lightly with the syringe, and water only when the surface soil is found to be fairly dry. In the spring, when bright weather prevails and more top growth is made, more water is necessary, but even then it can easily be overdone. At that season a little weak soot water, or other liquid manure given occasionally, is beneficial, as it helps to give intensity to the colour of the flowers, as well as to develop them to their full size.

In drawing these notes to a close I feel guilty of having given great infliction to Journal readers, but the young are always with us, to need help and guidance, and I look back with pleasure to the many valuable lessons learnt from old Journal writers. I have perhaps, advanced nothing particularly new on the subject, but many old cultivators will know how important it is to remember and to *practise* some of the details given. Every cultural practice recommended I have thoroughly tested by experience, and I am following the advice given, in the considerable task of forcing 40,000 bulbs of various descriptions.—H. D.

ACROSS THE ROCKIES IN APRIL.

To the uninitiated this may sound a paradise of budding Nature and spring flowers. Very different, however, is the reality. Vancouver in early April may be free from snow, but the mountains around will still wear their winter dress, and as one gradually ascends to the mountain ranges which lead up to the Rockies, it is speedily evident that though there are manifold signs of a natural resurrection, the iron grip and snowy garb of winter still holds sway in these higher regions, and this huge mountain barrier between the Pacific and the plains of the North American continent. The writer recently took this journey in the above month, and nothing more truly magnificent could be imagined.

Vancouver itself is beautifully situated with mountains, and Pine woods all around, and flanked partly by the seaboard and partly by the river. To a stranger to the American continent the first thing which strikes the eye is the system of side walks, being roughly boarded paths alongside the main roads, the huge forests around supplying endless material for such. The town and suburbs, which are steadily growing, have already caused the clearance of a very large area of these magnificent specimens of tree life, each one of which is of colossal height and growth, and individual trees being veritable giants of their kind. A beautiful park in the near vicinity is being laid out by the authorities with fine roads and occasional clearances, thus enabling the wonderful Ferns and varied undergrowth to be seen. Winter had but just relaxed its grip when the writer visited the place, and nothing much in plant life was yet up; the outer streets and roads, moreover, being in places ankle deep in mud from recently melted snow.

Leaving Vancouver, for some considerable distance there is the continuous pitiable, and, to an extent, depressing sight of charred trunks of giant Firs, a permanent evidence of the prairie fires, and, *par excellence*, of the huge conflagration which burnt down the whole of Vancouver a decade or so ago at its very initial stage of existence. At present Vancouver seems entirely taken up with Klondyke and the Yukon, and not a street or shop but bears record of some direct connection with this wonderful new Eldorado. Equipment of every imaginary kind and miners galore from probably every part of the world met one's eyes at every turn.

The Cascade Mountains and the mighty rivers of the early part of the journey are a fitting preparation for the sublime splendours of the

upper heights of the chain of the Rocky Mountains proper. Many interesting features present themselves, too, apart from the scenery. Here and there the traveller observes the tiny tents of the Indian, often in apparently impassable spots, and generally on the banks of a river for the purpose of washing for gold, which is still carried on to a considerable extent by the ubiquitous Chinaman as well. A keen observer may occasionally see deer of various kinds, and perchance a bear.

The climax of the journey is perhaps reached at the Glacier House, where your iron horse stops for an hour to fortify its passengers with a good square meal in a mountain hotel established by the Canadian Pacific Co. within a stone's throw of the line. This, 5000 to 6000 feet in altitude, is about the highest point traversed, and, on the occasion referred to, was covered all around with very deep snow; the beautiful Selkirk Glacier, a snowfield larger than the whole of Switzerland, lying *vis-à-vis*. Though not a very rapid (as regards time) it is yet an indescribable transition from the mighty splendour of Nature in its gigantic moods to the boundless elevated prairies which one enters upon from the foot of the Rockies. For hundreds and hundreds of miles one sees not a vestige of a tree or shrub, nothing but a few wolves, and occasionally a Red Indian settlement.

This enormous land journey of 3000 miles is of necessity to some degree monotonous. One tires in time, as much of the very grandeur of the mountains as of the featureless and interminable plains. Nevertheless there is a certain element of excitement in the endless possibilities of fortune. It is always on the cards at such seasons that you may be snowed up or blocked by a freshet breaking out across the track. At one place the writer recalls a consultation as to whether some piles split by the flowing ice in a rapid stream near Winnipeg would bear the weight of the train. In any case the tourist should be prepared beforehand to meet with the unexpected; but though contretemps, disagreeable at the time, may have been his lot, he cannot but retain the impress of a journey so diversified and marvellous, and one that is in its way perhaps unique compared with any other continuous travel of the same length.—T. A. CARNEGIE-CHEALES.

EXPERIENCE WITH MANURES.

I THOUGHT Mr. R. P. Brotherston, under the above heading (page 432), was going to give us workers a treat. It is needless to say I was sadly disappointed, after reading his remarks, to find that he had advanced nothing new, but had even advocated theories which may even be misleading.

He tells us that "Chemical manures are an undoubted aid, but they are not everything. . . . They can never take the place of farmyard manure, nor do they save the cultivator in tillage." True, chemicals are not everything, any more than farmyard refuse; but a fact which many market growers will admit is that, although we use plenty of dung, we pin our faith on good artificials, for we find they are—other things being equal—everything to us.

We wonder what cultivator expects chemicals to do his tillage for him. What is the use of applying artificials to soil unless there be plenty of roots to take up the food? Plants do not form plenty of fibres in poorly tilled soil. Has your correspondent ever noticed how a root in poor soil, when it comes into contact with a piece of farmyard manure, will immediately begin to branch into innumerable fibres? We use farmyard manure with the object of inducing fibres, and artificials when there are plenty of the latter, so that they may profit by it.

Reading onward, I come to a sentence which states that Mr. Brotherston long ago affirmed "that garden ground in good condition requires no potash." Rather a bold assertion, and it proves he has yet something to learn. I have seen soils upon which potash proved of the greatest value, and in feeding all our plants we never omit it from our mixture. We have always seen the greatest benefit from using nitrate of potash. It is one of the best manures to induce good leaves and stem growth; but it is dear. Has your correspondent ever tried it on Crotons and Dracenas?

The "pulverising of the soil into particles" and the application of a "6-inch layer of farmyard manure," seems like reading from a text-book on agriculture, and makes me think your correspondent has not practised his method of cultivation very extensively. The pulverising of soil into particles is very well in theory, but we do not care to carry it out in practice.

The old school of scientists used to teach us that March and April was early enough to apply superphosphate, and that it was wasteful to use it previous to winter. The new school think differently, and I, for one, shall be pleased to know where the waste occurs. As to super being able to carry crops safely over a drought, I think your correspondent's statement requires explanation. There were perhaps other growth-influencing conditions. A grower in the next field to us has

2 acres of Celery planted in a sandy soil which has not seen a particle of any manure for fourteen years. The trenches had plenty of farmyard manure put in the bottom, but no superphosphate, no water, and yet none of the plants have bolted, and the Celery is good. Where is the super in this case?

Harking back to the second paragraph on page 132, I see the author says that "Science appears to be moving in the direction from which it started off at a tangent some twenty years ago;" but, in the meantime, according to "A. D.," how utterly helpless must it be? If this be true, why does your correspondent put science on the right track? He must know the right track, or how would he know she was drifting on the wrong? If science will not listen, let him give growers some good practical wrinkles, and I am sure he will gain the thanks of others besides—A MARKET GARDENER.

FALLING LEAVES.

AFTER changing from one tint to another the descent began, slowly but surely, and for the past few weeks the patter of falling leaves has made a dull and mournful music, till now it is almost over, and the trees bereft of their foliage have again assumed their skeleton appearance. But the pattering of autumn leaves means the provision of a commodity that to the gardener is indispensable—i.e., leaf mould. Some gardeners are more fortunate than others in being able to obtain a constant supply, and have no need to resort to methods of storage in order to provide for their wants. In one establishment where the writer was employed, there was an almost unlimited supply from hundreds of Oak and Beech trees.

There are, however, few places where this is the case, and it becomes part of the gardener's duty to use means for providing himself with a supply of the commodity for future use. The present is the time for the adoption of measures for the storage of the fallen leaves, which will come into use when thoroughly decayed. To keep drives and pleasure grounds in proper order, the "besom" must be kept continually at work, and if suitable places are provided for storage, the future supply of mould is insured. Under ordinary conditions the leaves do not become sufficiently decayed in one season for potting purposes, and in some gardens they are carted to large heaps and there left to rot away. If this be done annually a supply can be kept up. There are out-of-the-way corners in most gardens that can be used as receptacles for the purpose. It is chiefly a question of forethought and provision, and in many places the outcry for leaf mould need never be heard if the matter received due consideration at this time of the year.

Apart from the mould question leaves are invaluable for many purposes during the winter and late spring. They are used often as a winter covering for Vine borders, Asparagus beds, and crops that need protection from frost. Again for the making of hotbeds where litter is none too plentiful, if leaves be used in conjunction, half the quantity of the former material will suffice. It is quite true that leaves are an important item of the gardener's working plant.—G. H.

PRUNING FRUIT TREES.

I WAS pleased to see your notes on this subject in this week's issue of the *Journal*, more especially with regard to horizontally trained trees. I grow a large number of these every year, and distribute them pretty widely up and down the country, and I often feel desperately annoyed to see these trees after they have been under the care of some gardeners for a year or two. In the first place, many gardeners have the idea that a nurseryman who trains horizontal trees with their branches 1 foot apart does not understand his business, and the first thing they do is to lay in one or two shoots between each. One gardener explained that this was to fill up the wall space, so that it should not be wasted, and also to produce more fruit. I replied that he might have more leaves, but I doubted if he would ever have any fruit at all.

Again, a nurseryman sends out trees in this form with three or four tiers of branches, and a leading shoot 3 to 5 feet long. This I have several times seen nailed to the wall and left full length, with the result that the buds on the lower portion do not develop, and the upper part of the shoot is a thicket of growths, most of which are laid in. One would have thought that, even without instruction, a man's observation would at once disclose to him the fact that the leading shoot had annually been cut back to about 15 inches in order to form a new tier of branches.

I need not add that the trees thus treated are probably in the minority, still in these days of education and enlightenment it is disappointing to find any. If I might venture I would add this remark: many young gardeners are too keen to leave the outside department and get into the glass. I would remind such that, however beautiful the Orchids, Chrysanthemums, and other floral gems may be, man cannot eat them, and the owner will have a much greater sense of enjoyment when examining their beauties if he has previously had a comfortable meal, in which the vegetables and fruits of the garden supply no inconsiderable part.

Doubtless glass houses have been of infinite service to gardeners, but I fear they have tended to lessen, though not to exterminate, the number of men skilled in the pruning and cultivation of hardy fruits.—NURSERYMAN.

THE OSAGE ORANGE.

TOXILON POMIFERUM, Raf.; MACLURA AURANTIACA, Nutt.

THE Osage Orange tree is not a very familiar one; it is seldom met with save in botanical collections, and its fruit is still more uncommon from the fact of the tree being dioecious. Seeds of it were originally received in this country by Lord Bagot from Mr. MacMahon of Philadelphia about the year 1818; but, previously to this, it had been cultivated in and distributed from the gardens of St. Louis, the tree having been introduced there from a village of the Osage Indians. It may be of interest to note in passing that the genus Mahonia, embracing so many handsome evergreen shrubs of western N. America and E. Asia, was so named by Mr. Nuttall in compliment to the Mr. MacMahon here referred to.

The Osage Orange is widely scattered in the United States, luxuriating in fertile soils in valleys, where it rises sometimes to the height of 50 or 60 feet, producing near the ground numerous long slender branches. The wood is exceedingly hard and heavy, of a saffron-yellow colour with a satiny surface susceptible of receiving a beautiful polish, and, moreover, so uncommonly fine and elastic as to have afforded the material mostly used for bows and war clubs by all the natives from the Mississippi to the Rocky Mountains. The price of a bow made from this wood, according to Bradbury, was, in his time, a horse and blanket—evidence of the esteem in which it was held. The difference of opinion that at first arose as to the quality of the fruit was probably occasioned by its degree of ripeness; but it would not appear to be particularly appetising when “filled with yellow foetid slime,” which, it is stated, served the purpose of smearing the faces of the native tribes when on the war path. The bark of the tree furnishes a fine white fibre, and exudes, from incisions made in it, a milky juice resembling that discharged by many others comprised in the same natural order. Wood of this tree received from Texas was used for railway sleepers on the New York division of the Pennsylvania Railway alongside of Oak, Chestnut, and Catalpa, the duration of these latter woods being from two to three years, whereas the Osage Orange was found, after twenty-one years, to be in as good a state of preservation as when laid.

A specimen of the fruit, of the size of an ordinary Orange, brought home this season from Staten Island by a visitor, together with the spiny leaved shoots of the tree (for which I am indebted to Mr. W. G. Baker of the Oxford Botanic Gardens) has enabled a photograph to be forwarded to you, that serves to illustrate some characteristics of the Toxilon or Maclura that may be interesting. The verrucose fruit is represented as falling from the tree, to show the insertion of the axillary stalk in the singularly formed triangular basin, the sides of which measure about an inch in length with a depth of nearly three-quarters of an inch, the latter corresponding with the length of the stalk.

The tree from which the shoots were taken has for many years occupied a position on a wall facing S. by S.W., where it forms breast wood of a season's growth from 3 to 4 feet in length, and in this situation it has withstood a series of many winters without protection. The tree produces ample foliage of a bright light green colour, the upper surface of the entire oval acuminate leaves being smooth and shining; they are 3 to 5 inches long, from 2 to 3 inches wide, and are borne on stalks an inch or more in length. Not the least remarkable are the prominent long stout spines so plentifully produced throughout the whole length of the shoots, rendering the tree almost impenetrable.

There are admirable figures of it in Sargent's sumptuous “*Sylva of North America*,” tab. 322 and 323, from which work some of these particulars are taken, as well as from Nuttall's “*North American Plants*” and “*James' Expedition to the Rocky Mountains*,” quoted in “*Loudon's Gardeners' Magazine*,” 1826, vol. i., p. 356.—JOHN E. JEFFERIES.

FREAKS OF FRUIT TREES AND—MEN.

I AM troubling you, by parcel post, with an Apple for recognition, if possible. If you can give me its name I will try and get a young plant, the parent being left behind at our old home. The history of that tree is grimly humorous. It has a huge trunk whereon was Mistletoe, but for many years it had been in the decline of life, and the limbs died where the Mistletoe luxuriated. Of course, the parasite died with them.

Thinking I would destroy the tree in a more humane and speedy way than by the slow torture of “grubbing it up,” I sunk a blast hole into its trunk and let off half a pound of gunpowder. The effect was beyond expectation. It not only “shivered its timbers,” but heaved up the adjoining walk, and dislocated projectiles of wood went through some panes of glass in the Orchid house, and others made their way through the glass roof of another house. We overlooked getting the wreck out of the way, and as the still attached remains put forth leaves with vigour I left it to make new wood, which it did, which speedily became fruitful, and which has borne Apples ever since.

While I am writing I bethink myself to tell you of a double-blossomed Cherry which I have had eighteen years. There has never been anything unusual about its countless and most double flowers, barren through abortive ovary, but plenteous in stamens, till this year, when, to my wonderment, there were ten perfect fruit, and they not “wild” Cherries,

but beautiful and very sweet fruit, full average size and of a pale red and primrose colour. I can only think there must have been some accidentally single blossoms with stigma and ovary perfect; but I never noticed any such among the load of double flowers. I have kept the “stones” to see if they may have some extra tendency to produce double-flowered seedlings, though I think the peculiarity will not be very fixed.

When I took my former garden, the fruit trees were in a barren way, crowded up with idle wood. Younger trees had leaden labels with indented lettering. But when I found a “Marie Louise” ticketed as “Jargonelle,” and other like confusions all round, I was all at sea outside the shoal waters of my own pomological knowledge. The only Apple worth anything was the illustrious Cox's Orange, and this name had got on to a “local” fraud, little better than a good looking Crab.

I must not omit mention of an Apple tree in a trance (one of those removed), on which I have a set of Mistletoe. I brought two away, and one went on with scarcely a sign of check. The other has never made a leaf this year, but the bark is full of life, and the Mistletoe has made short

new wood, and is evidently in sound health. I am wondering if the tree can live through the long breathless sleep that cannot break “till green leaves come again.” I do not know that the parasitic lodger can do much to help its host, though Mistletoe is quick to feel and report any failure of sustenance.—AMATEUR.

[The heading to this entertaining narrative is ours. It was quite a freak of fancy to “shiver the timbers” of a tree with gunpowder as a more “humane” method of destruction than “grubbing it up,” and then leaving the maimed veteran to its fate—to die! But it lived, grew, and bore fruit, as if in compensation for the broken glass, as well as to teach its foiled executioner a lesson on restoring old trees by the blasting process. The freak of the double-blossomed Cherry is no doubt explained by its owner. More common, unfortunately, are the freaks of men, or boys, in attaching wrong names to fruit trees, and ultimately causing grievous disappointment. It is even worse than buying trees of good varieties correctly named by careful nurserymen and then allowing the names to be washed out or blown off, as is the case with hundreds, if not thousands, yearly. The “tree in a trance” will live till the spring and then may grow. If we wanted it to make the best growth we should then cut the branches well back to sound clean wood, and thus concentrate the weakened root force on a few buds instead of distributing it over many. The few might then produce free growths, and a healthy tree follow from the many. Without such shortening we should expect enfeebled growths with possibly a mass of weak blossoms in 1900, or the year following, and a then stunted, prematurely old tree to be set going again with gunpowder. Departures from ordinary routine, however, seem to render the cherished garden of our friend the more enjoyable, and we wish him long life to enjoy it.]

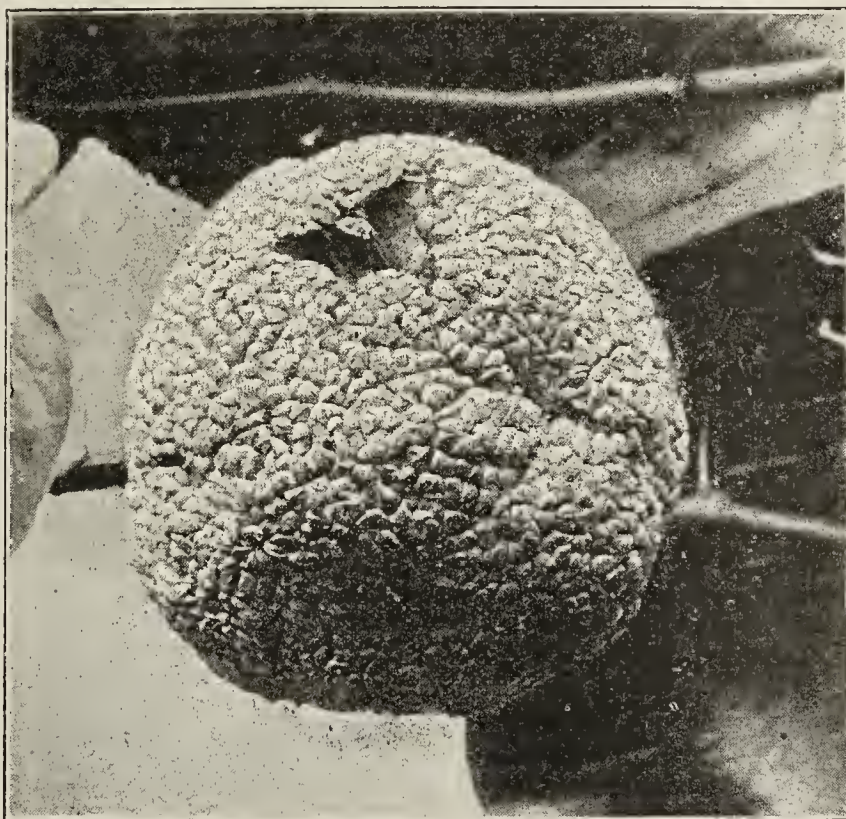


FIG. 77.—THE OSAGE ORANGE
(*Toxilon pomiferum*, Raf.; *Maclura aurantiaca*, Nutt.)



TOO-MUCH-ALIKE VARIETIES.

It is well known to practical growers of Chrysanthemums that certain varieties, taken on different buds, will give blooms quite distinct in appearance. If it were only necessary to show blooms that appeared distinct, then two blooms of Duchess of Fife, one taken early and the other late, could be shown as distinct varieties, for in build, petal and colour, they are quite dissimilar; and one noted grower at the late Aquarium Show did not recognise my bloom of this variety, so different was it from his own. Countess of Warwick is another example which would puzzle many judges.

The crux of the whole matter rests with the judges. If these men are practical growers, and acquainted with the peculiarities and characteristics of all the varieties, very few mistakes would be made; but to appoint hotel-keepers and such like, who cannot possibly know the ins and outs of a collection such as it is necessary to keep to-day, is to court dissatisfaction and endless protests. I am told, by an eye witness, who was an official at a show lately in Kent, that the judges removed the stands from the table and placed them on the floor to judge them.—A GROWER.

[Our correspondent does not say that one of them laid himself down with his head on the floor to see the depth of the blooms.]

Now that the date of several exhibitions to be held during 1899 have been announced, I should like to impress upon the executive committee of every society the desirability of an early issue of schedules of prizes. Nothing is gained by holding back the prize list; and exhibitors have a better opportunity of completing their list of varieties when they know what is required. I would also remind societies which are affiliated to the N.C.S. that the new rule as to classification of too-much-alike varieties should be inserted in the schedule. It would be still better to print the whole of the varieties that are bracketed in the N.C.S. schedule as a guide to exhibitors.

Hitherto it has been the general rule of affiliated societies to include in their prize schedule the words, "all questions of nomenclature in varieties to be settled by the N.C.S. catalogue," or words to that effect. The catalogue of the N.C.S. has been the recognised guide of all affiliated societies, and it is surprising what a large number of Chrysanthemum devotees who do not know of the existence of such a catalogue. Small wonder, then, that exhibitors get disqualified for the inclusion of varieties that are staged contrary to the recognised standard of law. I fear this would have happened more frequently if judges had taken the extreme law into their hands and disqualified all stands that contained some of the bracketed blooms of the N.C.S. prize schedule. In my opinion it would be extremely hard to disqualify an exhibitor for this reason where no such special intimation was contained in the prize schedule of this recent alteration in nomenclature of certain sorts that have, no doubt, in the past caused considerable trouble to judges, annoyance to exhibitors, and mystery to visitors.

If exhibitors would take reasonable pains in staging characteristic blooms of all there would be no need for bracketed varieties—at least, not for those that have lately given so much trouble. Cultivators of experience know quite well that the four varieties—Princess of Wales, Mrs. Heale, C. H. Curtis, and Major Bonnaillon are as distinct as possible, but when they are staged out of character—namely, an early bloom of one and a late bloom of another variety, what wonder if there is confusion and vexation. Exhibitors have only themselves to blame for these necessary precautions by show officials.

I have at times during the season just passed wished I had absolute power to disqualify such stands of so-called incurved Chrysanthemums as have been too frequently met with. I allude to the inclusion of such varieties as President Nonin and Duke of Wellington, both admittedly first-class incurved Japanese varieties. More than once have I seen these varieties amongst the incurved, or what are now known as belonging to that section. A salutary lesson of disqualification would do more to check this inclusion than all the writings in the press for a whole year.

How can a judge determine the law of nomenclature without such varieties have come before a properly appointed classification committee? Judges, as I look upon them, are there to carry out laws—not make them. I have heard many comments upon the various paragraphs contained in the report of the Committee appointed by the N.C.S., but I think an impartial reader will have no difficulty in

recognising the lucidity of the whole report. Certainly there is no mistaking the paragraph immediately preceding the boldly printed names on page 18 of the schedule, which distinctly says, "The following is a list of varieties of Chrysanthemums, either classed as synonymous or as too-much-alike, or which at times so nearly approach each other in general appearance that they *must* not be shown on the same stand." The italics are mine.—E. MOLYNEUX.

THE rule adopted by the N.C.S. bearing upon the staging of too-much-alike Chrysanthemums, with the long list of bracketed varieties appended thereto, has in it the germ of future discontent among the numerous affiliated societies which it is highly desirable to avoid, and therefore it is a fair subject for discussion by the Committee whether the rule should not be modified.

The Classification Sub-Committee, consisting of experts appointed by the N.C.S., adopted a rule in the first instance which amply met the case it had to consider, and threw upon the judges the responsibility which many authorities think should properly belong to them, but the General Committee in their wisdom declined to adopt it. The merest novice who saw the two blooms of Mrs. Heale and the Princess of Wales, as shown in Mr. Lees' stand at the N.C.S. Show, could see that they were quite distinct and true, and yet the judges were compelled by the rule as it now stands to disqualify. Your able correspondent Mr. Orchard, one of the judges, who very properly under the rule disqualified Mr. Lees' stand, says that the many attempts to blind the judges at various shows may have prompted the Committee in their action. If this be so, no one can find fault with the motive; but would not the warning contained in the rule adopted by the Classification Committee in the first instance have sufficiently met the case? That Mr. Lees, a member of the very Committee who made the rule, should be the first to inadvertently fall a victim to it is a strong argument for its modification.

I have neither the time nor the ability to discuss the points of similarity under varying circumstances of the long list of bracketed varieties, but maintain that this question may safely be left to the judges. If an exhibitor is so bold as to exhibit blooms as distinct varieties which are not distinct (in the opinion of the judges), he should be prepared to take the risk of his temerity.

Another point is, where is the list of bracketed varieties to end? As time goes on, other varieties will have to be added. Many of the affiliated societies have made and acted upon the rule that the N.C.S. catalogue is the standard of nomenclature, but when they adopted this rule the list of bracketed varieties did not exist. The question, however, arises, Is any conditions which the N.C.S. choose to make for the guidance of their own exhibitors binding upon an affiliated society? In my humble opinion, the answer to that question is in the negative, unless otherwise provided for in the rules of the affiliated society, and in the absence of any such provision in the conditions of affiliations of the N.C.S. Some of your correspondents seem to hold the opposite opinion. However this question may be decided, I think it is in the interests of a National Chrysanthemum Society to make only such rules and regulations which are to be binding upon its affiliated societies as will command by their judicial moderation the ready acquiescence of the majority of other Chrysanthemum societies, and so tend to insure, in the words of Sir Albert Rollit in his speech at the recent annual dinner, its own "annual and perennial prosperity."

I hope that the Committee of the N.C.S. will give the subject the consideration which it deserves.—EDW. HARLAND, Hull.

MR. ORCHARD, on page 440, argues that societies affiliated to the N.C.S. are not bound by the ruling of the Classification Committee as published in the schedule of prizes, but rather that of the N.C.S.'s Catalogue. These affiliated societies, says Mr. Orchard, in most cases state in their schedules that "the National Chrysanthemum Society's Catalogue will be the standard work of reference in all cases of classification." I would like to ask how many societies are guided by this Catalogue? and whether Mr. Orchard himself has taken it as a guide when he officiated as judge? or even the many members of the Catalogue Committee? It will be sufficient for me in this instance to mention but one variety to prove that this Catalogue is not the guide some would like us to believe. I have already mentioned the difference of description of Major Bonnaillon and C. H. Curtis, and now classed as "too much alike," and I would now like to point out the fact that Duchess of Fife is classed in the N.C.S. Society's Catalogue as a Jap, but has both this season and last been shown in hundreds of winning stands of incurved. Now, how many exhibits has Mr. Orchard or other members of the Catalogue Committee disqualified because they have not conformed to the classification as given in the Catalogue? True, in the schedule of the N.C.S. we find that Duchess of Fife is an incurved, but this counts for nothing, as we are told the Catalogue is the guide. The Classification Committee have bracketed Duchess of Fife and Mrs. Airdrie together as being too much alike; but let us

turn to the Catalogue, and what do we find?—Duchess of Fife described as a Jap. and “white,” Mrs. Airdrie, “Jap, golden bronze, shaded reddish gold.” Some catalogues describe the latter as creamy white, and “Duchess of Fife pure white, sometimes flushed pink.”

In the preface of the Catalogue we are assured that “the Society may justly feel proud at the readiness with which its Catalogue has been recognised and accepted as the standard work of reference upon all matters relating to nomenclature and classification.”

“A. D.” calls attention to the fact that the Floral Committee is made to look ridiculous by the action of the Classification Committee; but he could have gone a step further and shown that the Catalogue Committee were over-ruled by the Floral Committee, for many varieties classed as Japs by the one committee are certificated as incurved by the other. Then the Catalogue Committee ignore entirely some varieties which were certificated by the F.C. only the season preceding the publication of the Catalogue. If the Catalogue Committee has no faith, or is not guided by the certificates, surely it can hardly be expected that outsiders will be.—W. J. GODFREY, *Exmouth*.

DATES OF SHOWS, 1899.

In addition to those fixtures announced on page 416, the following Societies have arranged the dates of their meetings for the next season as follows:—Portsmouth and Penarth, November 1st. At the latter place a Society has lately been formed, with Lord Windsor as the President, who provides a challenge vase, value £15 15s. We wish this new Welsh Society every success. Cardiff opens November 8th. An excellent show was made at the latter place this year. Chrysanthemum culture has of late years been vigorously taken up, some of our best exhibitors, notably Messrs. Drake and Dumble, hailing from that part. York is fixed for November 15th, 16th, and 17th.

SHOW CHRYSANTHEMUMS.

It is always interesting, and no doubt instructive, to beginners in Chrysanthemum cultivation to know what varieties can be best depended upon to give the most satisfactory results at show time. In looking over the records of the recent shows it seems that the leading exhibitors in the big classes are largely dependant upon a very limited number of varieties, most of the collections containing almost the same varieties, with here and there an outsider or two to make up the number. In analysing the contents of the first prize stands at nineteen of the shows in which the names of the blooms are given in the *Journal of Horticulture* during the past few weeks, about 50 per cent. of the total have only been shown once or twice each, while the other half are those upon which the exhibitors seem to rely for the purpose of winning the big prizes, challenge cups, and prizes, all over the country.

It is curious to note that Madame Carnot still remains at the top of the list, although Australie disputes the place with her, and in point of beauty cannot be compared with the older favourite. Size, however, tells, and probably always will in a greater or lesser degree, and as some of the new colonials are remarkable in this respect, it would not be surprising to find them next year very high up in the lists. The following gives the number of times each variety has been shown at the nineteen exhibitions referred to:—

Madame Carnot and Australie, each fifteen.

Madame Gustave Henri, Phœbus, and Mrs. Chenon de Léché, each fourteen.

Mrs. G. W. Palmer, Mrs. J. Lewis, and Edith Tabor, each thirteen.

Edwin Molyneux, twelve.

Mrs. C. Harman Payne, eleven.

Simplicity, Lady Hanham, Pride of Madford, and Vivian Morel, each ten.

Mutual Friend and Mrs. H. Weeks, each nine.

Oceana, G. J. Warren, Ella Curtis, and Pride of Exmouth, each eight.

Lady Ridgway, John Seward, Mons. Panckoucke, and Chas. Davis, each seven.

Madame G. Bruant, G. C. Schwabe, Graphic, Mrs. W. Mease, Robert Powell, Eva Knowles, J. Bidencope, Secrétaire Fierens, and Dorothy Seward, each six.

Madame M. Ricoud, M. Hoste, Elthorne Beauty, T. Wilkins, Lady Byron, Mary Molyneux, and N.C.S. Jubilee, each five.

Jos. Brookes, Louise, Elsie Teichmann, President Nonin, Australian Gold, Mons. Gruyer, and Nellie Pockett, each four.

Emily Silsbury, International, J. Chamberlain, Col. W. B. Smith, Surpasse Amiral, Mrs. W. H. Lees, and Mrs. F. A. Bevan, each three times.—C. HARMAN PAYNE.

BIRMINGHAM CHRYSANTHEMUM SOCIETY.

ON Tuesday, the 6th inst., this flourishing Society held its annual dinner, when about 100 guests were present, and but for the somewhat unpropitious state of the weather a larger gathering was

anticipated. The Chairman of the Society (Mr. W. B. Latham, Curator of the Botanic Gardens, Edgbaston), presided. The dinner being over, the Chairman rose to propose the toast of “The Queen,” after which Mr. H. Walker proposed “The Society,” and remarked that the Birmingham public especially had a great deal to thank the Society for, inasmuch as, in his opinion, it provided them with one of the most pleasing exhibitions that took place in the city. Mr. Latham, whose name was coupled with the toast, said he could venture to say that this year the Society would be able to put to their reserve fund at least as much as last year, which would bring that fund up to about £330. That sum, however, was not sufficient to carry on a show which cost the Society £1000 and upwards, indeed, at the very least £700 to £1000 was required. Mr. Walter Jones (Treasurer) gave “The Judges” in eulogistic terms, remarking that at the recent exhibitions he believed that entire satisfaction had been given to the exhibitors, for he had not heard one complaint. Messrs. Blair and Crump in responding testified to the admirable arrangements of the exhibits, as well as the keen competition, and the high excellence of the products generally. Mr. Dyer gave “The Exhibitors,” a toast to which Messrs. Goodacre and Crook replied. Mr. Child proposed “Our competitive exhibitors and special prize donors,” and Messrs. Pope, Herbert, and Walton replied. Mr. W. Spinks gave “The Officers,” and Mr. Walter Jones responded. “Our Visitors” was given by Mr. John Careless, and responded to by Mr. C. R. Bick. The proceedings were pleasantly varied with songs and music.

THE SOIL—INFORMATION WANTED.

I THINK the most valuable lessons would be derived by readers of horticultural papers if all the editors appealed to their contributors kindly to supply in all reports in future, to the best of their ability, the following information along with the subject treated at any breadth, so far as hardy culture is concerned:—

- 1, Exact quality of soil, and, if possible, subsoil, if different, within the depth of a couple of feet.
- 2, Elevation over sea level.
- 3, Slope of area, if any, and what aspect and how sheltered.
- 4, Locality and county.
- 5, Any further item deemed notable.

Especially in systematic accounts about fruit crops the information would convey a distinct lesson, whereas without, there is little beyond statistical value. As to fruit, of course several further items would be also desirable concerning age, form of trees, stocks, and other influences.

These matters are frequently in my mind when I turn disappointed from a hoped-for lesson or hint on reading the reports as furnished by numerous contributors to the various publications. It strikes me how many of those writers fail to remember that—what they know all about because under their daily observation—their readers are ignorant of; yet these fundamental conditions of environment, to which the details furnished of results must refer, are mostly absent or insufficient.

The tripod is, as it were, to be made to stand on two legs, if not even, sometimes, on one leg only. Occasionally the omission may be trifling, and the tripod be only waddling from the relative shortness of one leg. This latter state occurs in Mr. R. P. Brotherston's omission, on page 432 of your journal, to furnish clearly and distinctly what is the actual soil under his care, the results from which he gives, although I may grant he allows it to be inferred, but that suffices hardly along with scientific exactitude. He tells us about fertilisers under various aspects, and also the extent of watering done in this last and driest of summers—viz., virtually no watering.

We have recently had the opportunity to listen to “A. D.'s” criticism of Mr. Hall's advocacy of fertilisers in the lecture at the Royal Horticultural Society's meeting, and were told by Mr. Hall, in reply, that “A. D.'s” quarters in sandy Surrey were unfavourable to the realisation of the objects in view, especially in a dry season. A difference on this subject exists between “A. D.” and Mr. Brotherston, the former advocating, on page 411 of your Journal, relatively poor soils for the successful trials of fertilisers, whereas the latter says, on page 432, that working these manures on poor soils in order to test their value is of no cultural benefit.

This leads to my suggestion that Mr. Hall's scheme of systematic experiments should by all means include analysis of the soil as well as the clearing up of the difference here referred to by me. Mr. Brotherston's details are so very copious and instructive that it seems almost ingracious to cavil. But does the condition of soil under his care account for the favourable result of fertilisers, and what is the exact conditions independently of manuring?

I should like to advise that every enterprising gardener should seek to procure an analysis of the soil, as from the composition of the latter being correctly judged will depend the style of manuring, if to be done in the most efficient way. Analysis will supply information so as to deprive certain lengthy direct experiments of them unnecessary, if not a tedious, protraction through years. The information should become part of reports giving results, and thus constitute a valuable source of information to others having also acquired knowledge as to analysis in their case.

I should like to repeat that for the small amount of 10s. the Royal

Horticultural Society's chemist will supply the knowledge as to proportions of clay, sand, lime, and humus that are present, whereas the cost of ascertaining all the subtle plant foods as well is £3, all included.

As Mr. Brotherston refers to working from an "ascertained point," I hope this possible omission of analysis will be promptly amended by him, so as to encourage precision among the entire community of gardeners, as I am probably not in error in judging this—although elementary—question to be yet a very dark horse, a predominant partner in the whole situation yet unrecognised by the many.

Mr. Brotherston might also be disposed to reconsider his verdict in respect of proprietary manures if he were aware of Mr. Hall's recent instructive remarks on the subject, and what Mr. Cousins has written in his very valuable treatise on "Chemistry of the Garden," issued as a primer this year.

When we come to the subject of deep cultivation the two correspondents referred to by me are thoroughly in harmony, so that this item could not traverse their experiments.

Although plant life takes only 5 per cent. of its total from the soil, and 95 per cent. from the air, we cannot exercise any influence whatever on the latter in outdoor cultivation. There remains, therefore, only the soil, which on the contrary can be so influenced, and is an element of no less consequence than heat. Hence the obvious course that we should analyse its constituents with a view of making good any deficiencies. From the point of view that we really possess power to influence the soil, we certainly undervalue it if we dismiss it without analysis. It rather effectually predominates in the partnership, and without analysis we must needs spend extra years on direct experiments.

I have purposely divided the question of the analysis of the soil into its mechanical portion (which intelligent gardeners could even do themselves) for ascertaining the four constituents named by me, and its chemical section in relation to the more subtle plant foods, in order to suggest that the former inexpensive portion should certainly not be omitted, as its reliability and constancy is greater than that of the more soluble evanescent section, and which we can replace artificially.—H. H. R., *Forest Hill*.

[We agree with our able correspondent that precise information relative to the chief governing factors in cultivation is desirable. Of the five points of his charter we think "H. H. R." has only indicated the fourth in his own case, and perhaps the least important (the fifth is undefinable). May we suggest if he were to give, under all the points of his charter, such information as he seeks from others, as derived from his own practice in fruit culture, whether this might not be, by force of example, one of the best means of bringing about, at least to some extent, the accomplishment of his desire. Will he show the way?]

NOTES FROM A LIVERPOOL GARDEN.

It is many years since we could boast of such a fine and yet, in some cases, somewhat peculiar season as the one which is drawing to a close. Almost entirely without frost and snow until the fruit blossoms commenced to open we were anticipating one of the best crops of fruit seen for years; but boisterous cold winds and a couple of frosty nights shattered all hopes, and in most gardens in the district the fruit crop is one of the smallest on record. This applies more especially to Apples and Pears, Keswick Codlin, Beauty of Kent, Peasgood's Nonesuch, Warner's King, Northern Greening, Golden Noble, Cellini, Bismarck, Ecklinville, Hawthornden, Cox's Orange Pippin, Ribston and Flanders Pippins being the best of the former; whilst Jargonelle, Williams' Bon Chrétien, Beurrés Capiaumont, d'Amanlis, Diel, Clairgean, Rance, and Huyshe's Prince Consort (the latter being always splendid in every way), Doyenné du Comice, and Glou Morceau of the latter. Gooseberries, Raspberries, Red and Black Currants have been excellent, and also several of the Cherries, but many of the Strawberries were caught with the frost.

All vegetable crops have done well during the summer—the Beans I never remember finer; but within the last few weeks the Brassica tribe has suffered from the ravages of the caterpillar to an extent rarely seen. Once again the Onion crop has been a full one, and free from the maggot. I have given up outside sowing, preferring to sow in boxes in greenhouse, and when well up transferring to a cool frame for fear of their being drawn up weakly. As early as possible in April they are transplanted on ground previously cropped with Celery, using no manure except a little fine bonemeal placed in each hole made by the dibble, the ground being made firm. A couple of dustings of some artificial manure previous to a shower is all the attention they received, and the Onions have been really excellent, their keeping properties being everything one could wish for.

Outside bedding plants have been wonderful, Dahlias, Gladioli, and Roses being charming. Their flowering has been continuous and until the recent frost, but not a vestige now remains. Michaelmas Daisies in every position have finished off every flower. Chrysanthemums, too, have been good outside, and the fine September and October weather seemed to suit the incurved flowers, for excellent ones have been the rule at most shows. The weather has been fine for pushing on outside work. There is a general complaint of the rapid decay in Chrysanthemum blooms, this being no wonder considering the changeable weather through which we are passing.—R. P. R.



WEATHER IN LONDON.—The second half of last week brought some splendid weather, though it could not be termed really seasonable. It was mild with bright and dull intervals. For a short time on Sunday a heavy drizzle fell, but the night and Monday were both dry with a rather cold wind. It was still cooler on Tuesday, with a frost at night. Wednesday was dry and cold until midday, when rain commenced to fall.

— WEATHER IN THE NORTH.—The past week has again been one of rain and high winds. On the morning of the 8th there was a slight touch of frost. A south-westerly gale raged between Friday and Saturday, with very heavy showers. Sunday and the afternoon of Monday were on the whole pleasant, and Tuesday promised to be fair. On Sunday evening the thermometer stood at 50°, and at 45° on Monday. Many of the streams have been in very heavy flood throughout the week.—B. D., *S. Perthshire*.

— GARDENING APPOINTMENTS.—Mr. George Francis, who has been head gardener for six years to Mrs. Guy Paget, Humberston Hall, Leicester, has been appointed in the same capacity to G. A. Kenwick, Esq., The Croft, Hill Morton, Rugby, Warwickshire. Mr. J. C. Tallach, for some years gardener to E. Dresden, Esq., Livermere Park, Bury St. Edmunds, has been appointed head gardener to E. Miller Mundy, Esq., Shipley Hall Derby.

— KEIR GRAPES.—When in Edinburgh last month I had an opportunity of seeing some of the Grapes grown by Mr. Lunt, as he was the winner of the first prize in the class for two bunches any white variety, staging grandly finished examples of Muscat of Alexandria. Neither the bunches nor berries were large, but they possessed three points so often lacking in this variety—evenness of berry, magnificent colour, and perfect freshness; not a sign of shrivelling was apparent. These are attributes all strive to obtain in Grape culture, but all do not succeed. When I saw the examples figured on page 421 of the *Journal*, I thought how like those were I saw in Edinburgh, but of course not quite so large.—E. M.

— ROYAL METEOROLOGICAL SOCIETY.—At the ordinary meeting of the Society, to be held at Great George Street, Westminster, on Wednesday, the 21st inst., at 7.30 P.M., the following papers will be read:—"The West Indian Hurricane, September, 1898," by Capt. A. Carpenter, R.N., D.S.O., F.R.Met.Soc.; "The Connection between the Winter Temperature and the Height of the Barometer in North-Western Europe," by W. H. Dines, B.A., F.R.Met.Soc. On January 2nd, 1899, the offices of the Society will be removed to Princes Mansions, 70, Victoria Street, Westminster, S.W., to which address all communication on and after that date, should be forwarded.—WILLIAM MARRIOTT, *Assistant Secretary*.

— DUTCH HORTICULTURAL AND BOTANICAL SOCIETY.—At a meeting of the Floral Committee on November 9th, 1898, first-class certificates were awarded to Mr. Jac. C. Groenewegen of Amsterdam for Chrysanthemums Edwin Bethge, Madame Boudoin, Madame H. de Vilmorin, Mrs. T. A. Compton, and The Egyptian. To Mr. T. E. Houtvester of Utrecht for Chrysanthemums Edwin Bethge, Mr. H. Tukker, Sarnian Gem, and Yellow Madame Carnot. To Messrs. A. P. Bouwman and Son of Arnhem for Chrysanthemum Yellow Madame Carnot. To Messrs. E. H. Krelage & Son of Haarlem for Cactus Dahlias Casilda, Henry Ayres, Laverstock Beauty, Miss Finch, Royal Purple, Stella, and W. J. Frost. To Mr. W. C. Baron van Boetzelaer of Maartensdijk for Stanropsis lissæchiloides.

— CLAVIJA MACROPHYLLA.—An example of this interesting Brazilian plant is now to be seen in flower in the Palm house at Kew. The Kew plant is about 15 feet high, with two heads of leaves. The leaves are decidedly handsome, being 2½ feet long, 6 inches wide, deeply serrated, dark green and leathery. The flowers are orange red, one-third of an inch across, and produced twenty or more together in racemes 4 or 5 inches long. The racemes are produced at right angles with the stem, from the old wood, several feet of the upper portion of each stem being smothered with flowers. The freedom with which the flowers are produced, and the manner in which they are borne on the hard, leafless part of the stem, makes this a striking object among surrounding plants.—D. K.

— THE DURHAM, NORTHUMBERLAND, AND NEWCASTLE BOTANICAL AND HORTICULTURAL SOCIETY.—We are informed that Mr. I. B. Reid has been appointed Secretary of this Society in place of Mr. J. J. Gillespie, jun., and that the offices of the Society have been transferred from Cross House Chambers, 54, Westgate Road, to Mosley Chambers, 30, Mosley Street, Newcastle-on-Tyne.

— WOOLTON GARDENERS' IMPROVEMENT SOCIETY.—At a recent meeting of the above Society, Mr. J. Heaton, gardener to R. P. Houston, Esq., M.P., Aigburth, who has been fortunate enough this season in winning the Liverpool challenge vase for the first time, gave an admirable and concise paper on "The Japanese Chrysanthemum for Exhibition." Mr. J. Glover took the chair, and introduced the lecturer to the very large audience, the latter soon making himself at home in his subject, dealing with every phase of cultivation in a free and practical manner. An interesting discussion ensued. Many members contributed cut blooms, Messrs. Clibran & Sons also making a capital show with Japanese, Incurved, Anemones, and single Chrysanthemums. Votes of thanks to the lecturer and chairman closed a highly instructive and interesting evening's enjoyment.—R. P. R.

— BRISTOL GARDENERS' ASSOCIATION.—The presence of nearly ninety members on Thursday, December 8th, to hear Mr. Holbrook of Messrs. Garraway & Co.'s nurseries read a paper on "Chrysanthemum Culture," plainly indicates that there is no lack of interest in the autumn queen among the gardeners in the neighbourhood. The reputation of the essayist as a Chrysanthemum grower no doubt proved an additional incentive to attend, for even the most experienced growers can usually glean some information from the practice of others. Mr. Holbrook told with great clearness how to treat them from start to finish, and well deserved the hearty vote of thanks accorded him at the close of the meeting. Many exhibits of plants and flowers made the meeting attractive, and a prize for the most interesting exhibits brought to the past five meetings was awarded to Mr. McCulloch.—CHAS. LOCK.

— GRAFTING OLD TREE STEMS.—I was much interested in the illustration given at page 435 of Mr. Merryweather's very drastic method of grafting old tree stems, as also in his descriptive matter. I always in grafting old trees preferred to behead hard, and especially to clean stems, though not inserting so many grafts by one-half as Mr. Merryweather does. My experience was that in grafting close back growth was more certain and much stronger than is the case when it is done on long branch arms, with smaller wood, as is so often seen. But I have also seen where grafting of this nature has been done that a branch or two of the old head has been left intact, to "help to draw up sap" would be the excuse for this practice. During my experience I have not found a healthy tree stem when hard grafted to be at all deficient in sap—indeed, such branches rather served to attract it from the grafted arms where wanted to where not wanted.—AN EX-GARDENER.

— THE SURREY SANDS.—It is an undoubted fact that the county of Surrey has sand largely predominating on its surface. It is also an undoubted fact that some of the best garden crops I saw during the exceeding drought of the past summer was on sandy soils. In some districts these sands run very deep, perhaps 20 feet, and although the lower layers seem to be as poor as sand can be, yet roots run deep in them, and trees, especially with their roots very low down, thrive on them wonderfully. So far as garden crops are concerned, so much depends on deep working. It is doubtless the same all the world over, but so far as these sands are concerned, few soils seem to repay this deep working better than they do. We are yet very much in the dark in regard to soils—their constituents and productive capacities; but when we see what has, devoid of deep working, seemed to be poor barren worthless soil made to produce splendid crops by garden cultivation, we need then no chemical or analytical evidence to show that such soil is capable of high plant sustenance, even in respect of Grape production; as I have previously mentioned, the crops seen on the Vines at Byfleet, where the soil is a mass of sharp sand, bear conclusive evidence of its fertile capacities. I know that when the Vines were originally planted at Mr. Berry's vineries some loam was worked into the borders, but both inside and out there can be no doubt but that not only has the roots got far beyond made borders, but also that the sand has permeated the loam very largely. Yet again this season the Vines in the long houses there have borne splendid crops. Hamburgs, Muscats, superbly coloured; Gros Colman and Alicante really first-rate for market purposes. With good culture and proper feeding market growers seem able to extract fine produce from any soils.—A. D.

— DESTROYING TREE STUMPS.—Mr. J. Miller of Ruxley Lodge Gardens often talks of his experience in tree stump destruction with the aid of dynamite, which he used to obtain from the neighbouring collieries when at Clumber, many years ago. When big stumps had to be removed holes were bored into the centres of each with a stout augur, and a charge of dynamite, to which a fuse was attached inserted into each. As the force of dynamite in exploding is chiefly downward, there was no danger attached to the operation if ordinary care was exercised in removing far enough away after the fuse was ignited. The effect of the explosion was to literally lift the stump out of the ground, and also to rend it into several pieces. That method was far more effective and expeditious than is the burning stumps out as advised in the "Farmers' Gazette."

— FATSIA JAPONICA.—As a hardy plant this ought to be more widely tried in sheltered positions in mild localities. Planted out it often attains large dimensions, and looks very handsome. The specimen at Kew, referred to by "D," must be a fine one. There is a very fine one, which must be nearly if not quite as large, in the front garden of a villa in the southern suburbs of Dublin. Unfortunately it has been planted too close to the house, and must now be getting too large for the comfort of those in the apartment whose windows it shades. About Dublin this Fatsia is a good deal grown in the garden, and there it is quite hardy. It is perhaps still better known as Aralia Sieboldi than as Fatsia.—S. ARNOTT. [Plants are now flowering in the open at the end of the houses at Chiswick, and are distinctly ornamental.]

— CLERODENDRON SPLENDENS SPECIOSISSIMUM.—How can we afford to let such a superb stove climber as this be almost unknown to many of our younger cultivators? Such was the thought on seeing some young plants in flower in Messrs. Clibran's nursery at Altrincham. But it was more on account of one old stock plant trained to wires underneath the roof of a stove that I was tempted to send this short note. The glaucous green leaves full of health were sufficient to attract, but the large umbels of flowers seemed to put everything else in the shade. And what a colour this deepest of orange scarlets is! In fact, it quite stands alone in its beauty at this season of the year, or, indeed, all the time it is in flower. Good fibrous loam, with plenty of coarse sand and frequent syringings, seemed to suit it to a nicety. On looking it up in the dictionary I note that it was introduced from Sierra Leone as far back as 1840.—A VISITOR.

— TOPSY TURVY EDUCATION.—Sir John Gorst made some significant remarks at Cambridge last Saturday. Among other things, he said: "If they believed that education was an advantage and even a necessity, why should they not rouse themselves, and insist upon that education being given, and under such conditions as regards agriculture that the sums of money spent upon it should be no longer thrown away? The first thing he would urge upon everyone was that elementary education was the bedrock upon which the whole of their superstructure must be built. It had been officially brought to his knowledge, over and over again, the failures in the attempts made to train young persons in technical knowledge because of their want of sound elementary education. The last case of the kind came from Chelmsford in reference to an excellent College which had been established there by the Essex County Council. They had excellent chemistry classes there for the education of young farmers, and among other things they teach agricultural chemistry, and what he had sent to him on December 5th was the report of the instructor. This instructor praised the industry of his students, and the excellence of their work in the laboratory, but he made this very remarkable and significant statement, 'Arithmetic, however, is a weak point with some of the students, and the calculations of the results of chemical work have proved a difficulty in these cases.' So, if these young men were to make the necessary progress in technical instruction, they must go back to school and learn that arithmetic which ought to have been taught them years ago." We suspect there is a good deal of truth in those observations, for we have reason to believe that not a few of our young men are aspiring to proficiency in the sciences and higher aspects of education who are lamentably deficient, not in arithmetic only, but the necessary acquirements of composition and grammar and spelling. This topsy turvy system of education is a mistake, and it would be very much better for such men if they were, at night schools or otherwise, to perseveringly strive for proficiency in elementary education of the nature indicated. While the facts are as stated, we are glad to know of many bright exceptions, and we wish these promising young men success. The best educated of skilled and industrious workers are bound to come to the front in the future.

THE £100 GRAPE CLASS AT SHREWSBURY.

As indicated on page 417, in our issue of the 1st inst., the notification there made was not of a final official character. It was, however, not very far from correct. We now find that the £100 is to be divided over six prizes for twelve bunches of Grapes in six varieties, each bunch to be on a separate stand, and the whole to be arranged in two tiers with non-flowering table plants and loose foliage, but no flowers, on a table space of 8 feet by 4 feet 6 inches.

The prizes are to be apportioned as follows:—

First prize, the Society's gold medal and ...	... £26
Second prize ...	... 24
Third prize ...	... 20
Fourth prize ...	... 15
Fifth prize ...	... 10
Sixth prize ...	... 5

As no such prizes have been offered in a Grape class before, and as the stipulations are well within the means of many cultivators, great competition may be expected, and the gold medal will be a permanent memento of a notable event. At least one variety of white Grapes is essential.

In judging, points are to be given for every bunch as representing superior cultivation and finish for the respective varieties, flavour not to be a primary factor, as this, in the case of all varieties, cannot be fully developed at the period of the year, August 23rd. The maximum points allowed are—for Muscats ten, all other Grapes (black or white) nine, and for decorative staging six points. A thoughtful provision is made by which local florists will loan table plants, if required, at nominal rates. It will be safe to predict another crowd at Shrewsbury.

GARDEN REFUSE.

WONDERFUL! I said when I finished reading those few remarks on the above subject (page 436) by Mr. "A. D." It makes one wish, yes, and even crave, for a good heap of rubbish, so as to be able to grow "those wonderful crops of all things." Yes, 'tis strange that garden refuse is so valuable for crops, particularly as Mr. "A. D." says that "according to chemical analysis and scientific basis it is deficient in phosphates and potash."

I know your correspondent is a critic of no mean order, but for how long has he posed as a chemist? He tells us that according to chemical analysis garden refuse is deficient in phosphates and potash. Will he kindly send you a copy of such analysis? it would be interesting to more than one. Now, Mr. "A. D.," don't say you cannot, but do it.

I have pondered over this matter until I have perhaps got "garden refuse" on the brain, but it strikes me that an accumulation of a heap of vegetable matter must contain more nitrogen, potash, and phosphates than your correspondent would have us believe. Vegetation of any kind cannot grow unless the plants or trees find sufficient of the three substances just named, for they are necessary before a plant can build up its tissues. This being so, it must be perfectly clear to anyone who will give the matter a moment's consideration, that an accumulation of vegetable matter is an accumulation of plant food—yes, and plant food in an available condition for plant growth; and if your correspondent wishes it I will try and prove to him that either his analysis or memory is at fault, and also that a heap of good garden refuse contains on a scientific basis more plant food than the same weight of best farmyard manure.—A WORKING STUDENT.

CHEMICAL MANURES—HOW TO OBTAIN THEM.

THE obtaining of suitable manures by the occupiers of cottage gardens and allotments is a more difficult matter than probably most people are aware. It might be thought that in agricultural districts cottagers can obtain an abundance of good farmyard manure at a low cost and with little trouble. But in many districts such is by no means the case. Farmers want all the manure they can obtain, and will not part with any of it.

It is an easy matter for the cultivator of acres to buy chemical manures by the ton or the hundredweight direct from the manufacturer or importer, but occupants of small plots have no such facilities. Concentrated mixtures are sold in small quantities, but experts tell us to beware of such merchandise, as by buying manure in this form we pay for it at about three times its value. Even in agricultural districts there are few towns and scarcely any villages where such manures as kainit, superphosphate, nitrate of soda, and so forth can be bought in small quantities and at prices that will suit the purses of the multitude.

Occasionally something is done through co-operation and gardening societies, where there is someone bold enough to take the risk, but the average working man is not a great speculator, and prefers to buy his material as he wants it. Knowledge as to the use and abuse of chemical manure is a valuable acquisition to gardeners of all classes, but the small cultivator will only seek after fertilising materials in a half-hearted fashion till enterprise steps forth and provides them in a manner that will suit his requirements.—G. H. H.

PLUMIERIA BICOLOR.

To lovers of sweet scented flowers Plumierias will be appreciated, as the perfume is delicious. I have found that a stove temperature is necessary to grow and flower them satisfactorily; then, if proper attention is afforded as regards watering and compost, not much difficulty will be experienced in their management. Good turfy loam three parts, with one of well decomposed manure, a dash of silver sand, and a few pieces of charcoal suits them admirably. After the flowering season, which generally occurs during August and September, and when the foliage commences to turn yellow, water should be gradually withheld, and when the whole of the leaves have left the plants may be withheld altogether for some weeks, care being taken that they are out of the way of drip, as during the cold season, if kept too moist, the stems are almost certain to decay at the soil level. One of the most beautiful of these plants, *P. bicolor*, is depicted in fig. 78.

In early spring, or when signs of growth appear, the plants should be shaken out, removing a portion of the old soil after the manner of shaking out Fuchsias, and indeed a compost that will grow these will suit Plumierias. Water should be applied with much caution for some weeks until the roots have taken well to the new soil; the supply may then be increased and when in full and vigorous growth occasional applications of soot water will be of much benefit. The plants should be shaded from bright sun, and it is essential to use the syringe very freely, as aphids, thrips, scale, and mealy bug all seem to be much enamoured of the succulent nature of these plants, and must be guarded against accordingly, or the handsome green leaves will soon be bereft of their beauty, and the chances of the plants flowering freely be very remote.

To propagate, I have found it best to stand the stems erect by the aid of a small stick on the surface of sandy soil or cocoa-nut fibre refuse, and not insert the cuttings, as they are very apt to damp if the latter method is adopted. The compost should be moderately dry.—GROWER.

COMMENTS ON APPLES.

ABOUT twenty years ago my employers wished an Apple tree to be planted on the lawn. My mistress wished it to be a Russet, so I obtained for the purpose a tree of the Sykehouse Russet, thinking that to be a good variety. It was planted and grew there for some years, but like the tree (fig. 74, page 435) it was badly cankered.

The tree was condemned, but instead of throwing it away I cut off the head below the branches and planted it in a bad position—the east side, and near to a row of old Elm trees. It threw out one strong shoot and a few weak ones. The latter were cut away, and the strong shoot has now grown into a good head, from which I gathered a few fruits last year; this year it blossomed well, but produced no fruit, as the Apple crop in the locality was generally poor.

I was much interested in reading Mr. Picker's instructive remarks on Apple growing in Yorkshire, but did not you fortunately misunderstand his alluding to Cox's Pomona as a "Yorkshire Apple?" According to my reading he seemed to refer to it as a good Apple to grow in that county, just as I might call it a good "Somerset Apple," because it does well here, instead of writing of its nativity. I say "fortunately" in reference to the misunderstanding, because we thereby get the interesting foot-note.—D. W.

[Our friend appears to like foot-notes as well as Cox's Pomona Apple. We surmised Mr. Picker's meaning, but thought it well to register the historic fact that Cox's Pomona is a Buckinghamshire Apple, also to emphasize the geographical fact that it succeeds well in East Yorkshire, and chronicling two facts in three lines is no great waste of space. We will try another fact or two. There is the same difference between a "good Apple to grow in Somersetshire" and a good "Somersetshire Apple" as between a "good gardener in Somerset" (though with a Yorkshire birthright) and a "Somersetshire man." The gardener in such case would be a "Yorkshireman," even though thriving in another county. "D. W." must be a good gardener, or he would not have remained so long in his charge; but he may or may not be a Somersetshire man. We know that the Sykehouse Russet—the tree which he decapitated and "struck" the head as a cutting in a "bad" position, but which the tree seems to like—was not a bad hit; yet though much at home as the tree may appear to be it is not a Somersetshire Apple, but a Yorkshire Apple named after the village of Sykehouse, where it originated many years ago.]

I HAVE carefully examined the selection of kitchen Apples given on page 433 by Mr. Picker, with the object of criticising his selection. I must confess, after comparing them with the 135 varieties we have, I cannot improve it in any way but one, and that is to cut out Ecklinville Seedling, and confine the list to one dozen, and not trouble about the baker. I cannot even substitute another for that objected to, because the list contains varieties that carry the season right through, and all have points of importance that exception cannot in all honesty be taken. Fruiterers in some districts object strongly to Ecklinville on account of its tender skin. If I must give the baker his place, and make up the

thirteen, I shall name Alfriston, as this is undoubtedly a splendid Apple in every respect. Some persons say in strong soil it is liable to canker; that is not my experience, as it is growing in such a soil as that named. The fruit keeps well until March, and is of undoubted excellence.—E. MOLYNEUX.

of each of Lord Grosvenor, Bismarck and Bramley's, with a few Warner's King for dumplings, and you will have as many of the best cooking Apples as you please, whatever your soil may be, from August till May," I should have had nothing to say. These are all varieties, with large foliage and vigorous growth, that will bear anywhere. If I made a change



FIG. 78.—PLUMIERIA BICOLOR.

MR. PICKER asks for criticisms on his list of cooking Apples. I will offer mine. The first would be that he has omitted the best—Bramley's Seedling. The next would be that, though he may be modest in comparison with others in limiting himself to thirteen varieties, he has yet got three or four times too many. If he had said, "Grow large quantities

it would be with Bismarck, and there would be any amount of alternatives, as it would be wanted only to fill the gap at the time when such a gap is easiest filled, between the finishing of Lord Grosvenor in October, and the commencement of Bramley's in December. In a good season I should have had enough of Blenheim Orange, grown for dessert, to fill this gap.

Cox's Pomona.—Too soft and pretty. Tits, wasps and hornets play havoc with it; a bad one to keep.

Lanc's Prince Albert.—Wonderful cropping may be all quite true, but requires either good soil, or thinning, or both, to come of large size. And it is acid: others may not agree with me, but I find plenty of acidity in life without going to Apples for it.

Gascoyne's Scarlet Seedling and *Stirling Castle* want better soil than I can give them, and the latter in its short season has rivals superior to it.

Small's Admirable I do not know; the fact that Mr. Bunyard has cut it out of his list would be enough for me.

Lord Derby I have retained for the present, but it is not long enough in use, and will certainly not grow everywhere.

Northern Dumpling I do not know, and doubt its being wanted.

New Hawthornden does not bear well with me, and if it did, I can only say, in the words of the critic of "The Jumping Frog," "I don't see no p'int about it better 'n any other" Apple. It was actually the only variety that failed to crop with me this year.

Ecklinville is not early and late enough; not so early by two months as *Lord Grosvenor*, and lasts but very little longer.

Newton Wonder I do not grow. It is "partakes of the flavour of *Dumelow's Seedling*," one of the sharpest I know, I want none of it.

The above is my experience, which I have earned. I planted a good many sorts some years ago, and my soil is poor. I do not want a number of varieties, but the best that my soil can grow, to last from the beginning of the season to the end, and *Lord Grosvenor* and *Bramley's* will be my sheet-anchor in future. I have found out what I ought to have known at first, that what I want on poor soil is strong, healthy, large, powerful leafage, to make the roots work hard to find, and to be quick in finding, among my small gravel stones what I can give them, and to pump it out of them vigorously for the benefit of the trees.

For dessert I would take *Red Quarrenden*, followed by *Lady Sudeley*, if I wanted eating Apples before October; then *American Mother*, with *Blenheim Orange* if required, which it should not often be, to fill the gap before *Cox's Orange* is ready, and this latter should last till *D'Arcy Spice* comes in, to "finish the season." I may say that at present I cannot grow *D'Arcy Spice*, but am still experimenting, nor *Ribston Pippin*, but that is not so much wanted.—W. R. RAILLEM.

THE UNIT IN HORTICULTURE.

THE appeal of "Northern Gardener" for more consideration for the unit in the judging of garden produce may be in some respects timely, but in others rather late. Really most intelligent judgments of produce are based on the unit, and in point judging the only possible satisfactory method of dealing with large collections the "unit" has long been the basis of all such awards. Even in judging single dishes of fruit or vegetables, or of quantities of flowers—such as, for instance, *Roses* or *Chrysanthemums*—the unit basis is always adopted, no other being satisfactory. If in the judging of a collection of fruit, for example, the dish, and not the individual fruits in it, becomes the unit, yet does the dish unit lose points if there be individual defects in the fruits. In the case of single dishes each fruit is valued according to its merits.

The only case so far as fruit is concerned in which the "unit"—viz., the berry, is not sufficiently regarded, is found in *Grapes*, and remembering the grand *Grape* class which is to be furnished at *Shrewsbury* in August next, no more fitting opportunity will offer for showing consideration for the unit or berry than then. It would be great gain could there be some clear statement made in the schedule which embodies that class that the judges will be invited to give most weight to individual excellence in berry, mere size or weight of bunch being a secondary consideration. Of course, I do not desire that loose ungainly bunches, having large and even well finished berries alone, should be placed before others of more compact form, and presenting correct contour; that would be putting a premium on overthinning.

Very much consideration is due to proper thinning, which is exactly the desideratum in that operation, and is not over or under done. But in relation to mere size of bunch, we may not overlook the fact that these giants are usually obtained by hard bunch, and not berry thinning; and the average crop on a rod may be less, and the size of berry and finish of bunch also may be less than is found when useful sized table bunches only are carried. In one case a rod is carrying three or four giants, a total weight of say 25 lbs. In the other case the rod carries twelve bunches of a total weight of say 28 lbs., all of most serviceable size, and possibly of perfect finish; yet in how many cases are not the big cumbersome bunches, that are so wasteful when used for dessert, placed first by judges? When so judged the bunch becomes the unit, and not the berry.

The big bunch system would bring ruin to market growers. When they produce eighteen to twenty bunches on a 12-foot rod we may be sure that 2 lbs. weight is the average, and the size so obtained is for *Grapes* by far the most profitable. Even in such fruits as *Peaches*, *Nectarines*, *Apples*, and *Pears* it may be possible to worship size too much. A dish of six grand *Peaches* may be something to be proud of, and may also win a good prize. But, after all, may they not have been largely the produce of hard thinning, so that if the six weigh 4 lbs. a dozen of excellent and perhaps less weighty fruits might have been carried on the same tree area, and have weighed 5 lbs.? Is not the securing the dozen fruits in this case the more meritorious? Judges, of course, have to deal with products as presented to them; but if our judgments tend to the production of lesser quantity in obtaining mere size, then they need amending.—ADJUDICATOR.



ROSES IN POTS.

No time should be lost in looking over the earliest stock of *Roses* in pots. See that the drainage is efficient, and unless much root-bound and in small pots do not disturb too much. Removing the surface soil and giving a good mulch of very rich compost is ample in most cases. Small pots containing nicely ripened plants, even if not very strong and large, are suitable for early forcing. I would plunge these into half-spent manure, and not shut up the house too closely for a time should the present mild weather continue. Later they can be kept going by a little fire heat, and will still be benefiting from the manure.

G. Nabonnand, *Madame Falcot*, *Perle des Jardins*, *Maman Cochet*, *Niphetos*, *Papa Gontier*, *Souvenir de Wootton*, *Isabella Sprunt*, *Perle de Feu*, *Rubens*, *Souvenir de C. Guillot*, *Mrs. W. C. Whitney*, *Marquis of Salisbury*, and *Général Jacqueminot* are grand for winter flowering in small pots. *Reine Marie Henriette*, *William Allen Richardson*, and *Maréchal Niel* are the three climbers found most successful by —PRACTICE.

LATE-FLOWERING ROSES.

THE most valuable *Roses* are those which, while blooming well in summer, also accomplish something considerable in the direction of floral activity during the autumnal months. This highly important qualification is much more characteristic of the *Teas* than of the so-called *Hybrid Perpetuals*, though several of these, such as *A. K. Williams* and *Captain Hayward*, are notable exceptions to the general rule. Among *Tea Roses* some of the finest late bloomers are *Marie Van Houtte*, *Madame Hoste*, *Madame Lambard*, *Anna Ollivier*, *Catherine Mermet*, *Souvenir d'un Ami*, and *Souvenir de S. A. Prince*. *Mr. Wm. Paul's Enchantress*, *Medea*, *Sappho*, and *Empress Alexandra of Russia* are also splendid autumnal bloomers when atmospheric conditions are favourable.

Gloire de Dijon and *Bouquet d'Or* bloomed early and late, and with remarkable facility, considering the compactness and number of their petals. *China Roses* and *Polyanthas* are still flowering in my garden on the confines of December; as also are several of the *Hybrid Teas*. Of the latter the most admired are *Viscountess Folkestone*, *Kaiserin Augusta Victoria*, *Lady Henry Grosvenor*, *Marquis Litta*, *Countess of Caledon*, *White Lady*, *Clara Watson*, *Caroline Testout*, *Madame Pernet Ducher*, and the incomparable *La France*.

Among *Hybrid Perpetuals*, three of the most reliable for effective autumnal flowering are *Mrs. Sharman Crawford*, *Margaret Dickson*, and *Merveille de Lyon*.—DAVID R. WILLIAMSON.

NATIONAL ROSE SOCIETY.

ANNUAL GENERAL MEETING.

THERE was a fair attendance at the annual general meeting of the *National Rose Society*, which was held at the *Hotel Windsor*, on Thursday the 8th inst., under the chairmanship of *Mr. C. E. Shea*. Some familiar faces were absent, but it was pleasant to see the *Rev. H. H. D'Ombraim* in his customary place. We observed, also, *Messrs. Geo. Bunyard*, *V.M.H.*, *O. G. Orpen*, *T. B. Haywood*, *Conway Jones*, *C. Cant*, *J. Burrell*, *W. Tayler*, *G. Moules*, *Frank Cant*, *J. Bateman*, *J. D. Pawle*, *H. P. Landon*, *G. Mount*, *Geo. Paul*, *V.M.H.*, *E. Mawley*, and *Dr. Shackleton*; with the *Revs. G. E. Jeans*, *J. H. Pemberton*, and *F. R. Burnside*, as well as numerous others. The circular convening the meeting having been read, and the minutes of the previous annual general meeting taken as read and signed, *Mr. J. Burrell* and *Dr. Shackleton* were appointed scrutineers of the ballot, when the Chairman called upon *Mr. Mawley* to read the report, of whose favourable tone our readers may judge for themselves, as it is herewith subjoined.

REPORT OF THE COMMITTEE FOR THE YEAR 1898.

The past year may be regarded as one of steady progress, whether the point of view taken be that of the *Society's* exhibitions, the increase in the number of members, or the issue of its publications.

The most complete arrangements had been made by the *Society's* local representatives—*Mr. R. B. Cater*, the President of the *Bath Floral Fête Committee*, and *Mr. W. F. Cooling*—for the *Southern Exhibition* at *Bath*, but the season unfortunately proved such a very backward one that only exhibitors from the most forward districts were able satisfactorily to compete—in fact, it was, without exception, the smallest show the *Society* has yet held. For the same reason the *Metropolitan Exhibition*, which took place at the *Crystal Palace* a week later, was of rather less than average extent.

If, however, not so large as many of its predecessors, it was

reflected much credit on them to see how smoothly everything worked. In this Mr. F. W. Campion concurred.

It was then announced that the ballot had resulted in the list of members proposed having been unanimously elected.

NEW REGULATION.

The next item on the agenda was a proposed new regulation, which says:—"In the three trophy classes at the metropolitan exhibition and in the two trophy classes at the provincial exhibition, the blooms must be staged in boxes of the following dimensions—viz.: twenty-four blooms in boxes 3 ft. 6 in. long by 1 ft. 6 in. wide, and eighteen blooms in boxes 2 ft. 9 in. long by 1 ft. 6 in. wide—all outside measurements."

The inclusion of this regulation was proposed by Mr. Geo. Paul, V.M.H., who stated that it had been discussed in committee. He considered it very desirable, as also did Mr. Frank Cant, who was the seconder; both observing that it would tend to put exhibitors on an equal footing. Others present testified in its favour, and on being put to the vote it was passed by a majority of nineteen to five. These sizes may be taken as a trial, and are therefore confined for next season to the classes specified only, but growers may take it that if they prove satisfactory from all aspects the dimensions will become general law, and apply to every class in the Society's schedule. It may therefore be wise for exhibitors who are having new boxes made to adopt the standard. The Rev. J. H. Pemberton had previously proposed an amendment in which the size of the door of an ordinary four-wheeled cab played a very prominent part, but it was lost.

The shows of 1900 having been adverted to, a vote of thanks to the Chairman was passed and the meeting closed.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL.—DECEMBER 13TH.

THE meeting at the Drill Hall on Tuesday was a most interesting one, notwithstanding the fact that fruit was very scarce. Orchids were numerous and of excellent quality, *Calanthes* and *Cypripediums* forming the backbone of the display. The former, shown by Sir Trevor Lawrence, Bart., were well diversified examples of excellent culture. *Begonias* and Zonal *Pelargoniums* formed the chief features in the department coming under the sway of the Floral Committee.

FRUIT COMMITTEE.—Present: Phillip Crowley, Esq. (in the chair); with the Rev. W. Wilks and Messrs. G. Bunyard, J. Willard, J. Cheal, J. H. Veitch, A. F. Barron, T. J. Saltmarsh, A. Dean, C. Herrin, W. Pope, W. Bates, G. Wythes, W. J. Empson, H. Balderson, G. H. Sage, J. Smith, G. Reynolds, G. Norman, and R. Fife.

Miss Breton, Forest End, Sandhurst, exhibited well blanched Cardoons, which were accorded a vote of thanks. Mr. C. Herrin, Dropmore, Maidenhead, contributed tubers of *Oxalis crenata*, grown as a vegetable (vote of thanks). Mr. W. Shingler, Melton Constable, staged a seedling Grape, a cross between Lady Hastings and Gros Colman. The berries were large, well coloured, and the flavour superior to Gros Colman.

Mr. Chas. Ross, Welford Park, Newbury, exhibited a seedling Apple named Paroquet, a well coloured variety of average size. Mr. Chas. Seden, Ware, sent a seedling Apple Arthur Tite, a cross between Kerry Pippin and King of Pippins; the fruits were rather small, but it partakes of the character of both Apples.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with Messrs. C. T. Druery, J. H. Fitt, H. B. May, R. Dean, G. Stevens, W. Howe, J. Hudson, J. Jennings, J. F. McLeod, C. J. Salter, G. Gordon, C. E. Pearson, C. E. Shea, J. T. Bennett-Poë, J. D. Pawle, C. Blick, H. Turner, E. T. Cook, G. Paul, H. J. Jones, and C. Jeffries.

Messrs. H. Cannell & Sons, Swanley, staged a remarkable display of Zonal *Pelargoniums* at this late season. The exhibit consisted of about forty varieties, staged in large bunches, interspersed with Maidenhair Ferns. The colours were exceedingly bright, and the flowers exhibited the marks of good culture. The most prominent were The Sirdar, W. E. Cordan, A. Tennyson, The Mikado, Mrs. Ewing, Mrs. Simpson, Lord Reay, King of Crimson, and Rudyard Kipling (silver-gilt Banksian medal).

Mr. W. Wells, Earlswood Nurseries, staged a very good display of *Chrysanthemums*, comprising the majority of the late varieties. The following forms were especially good—Redhill Beauty, Beauty of Sholing, Georgiana Pitcher, Julia Scaramanga, Mdle. H. de Rocheterie, and Mrs. W. Butters. The exhibit was very bright for the season (silver Banksian medal).

Mr. H. B. May, Upper Edmonton, staged a capital display of the now popular *Begonia Gloire de Lorraine*, and a choice collection of Ferns (silver-gilt Banksian medal). Mr. W. J. Prewett, gardener to C. A. Pearson, Esq., Farnham, contributed a pretty exhibit of autumn flowering plants, comprising *Erica hyemalis*, *Begonia Gloire de Lorraine*, and Roman Hyacinths tastefully arranged with Palms, Crotons, *Dracenas*, and edged with *Isolopis* and *Panicum* (silver Banksian medal).

Messrs. Jas. Veitch & Sons, Ltd., staged a bright and attractive exhibit of winter flowering *Begonias*, the variety Winter Cheer being especially bright, while Myra and Ensign are very acceptable colours at this dull season (silver Flora medal). Mr. Henry Eckford exhibited four

new *Primulas*, but it was difficult to form an opinion as to their merits owing to the bad light, and the plants being very young examples of the varieties. Messrs. F. Sander & Son, St. Albans, staged some attractive plants of *Acalypha Sanderi*, clearly demonstrating its value as a Christmas decorative plant. The *Dracenas Sanderiana* and *Godseffiana* were also conspicuous (silver Banksian medal).

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, de Barri Crawshay, H. Little, G. W. Law-Schofield, H. J. Chapman, W. H. Young, W. H. White, H. M. Pollett, S. Courtauld, E. Hill, E. Ashworth, T. B. Haywood, and T. W. Bond.

As has been said, the collection of *Calanthes* sent by Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, was one of the handsomest exhibits in the show. The plants were numerous, and represented several species and varieties, all thoroughly well grown. Amongst the best were Veitchi splendens, Victoria Regina, revertens, Veitchi lactea, burfordiense, bella, versicolor, amabilis, and jucunda. Mr. White contributed *Cypripediums* in fine form, comprising Fascinatum, Lceanum, L. giganteum, and others (silver Flora medal). Mr. A. Howard, gardener to H. Little, Esq., Twickenham, arranged a small group, consisting mainly of *Cypripediums*, and including most of those that flower at this period of the year (bronze medal).

Mr. H. J. Chapman, gardener to R. I. Measures, Esq., Cambridge Lodge, Camberwell, staged a large collection of *Cypripediums*, many of which were much above the average of quality. Varieties of insigne were very numerous, as well as Wottoni, Zeus, and others. Besides these there were Masdevallias, Sophronitis, Pleurothallis, with others (silver Flora medal). Messrs. H. Low & Co., Bush Hill Park, were represented by a small but very bright group of varied Orchids. Of *Cypripediums* there were insigne, Laura Kimball, Lceanum giganteum, Niobe, Charles Canham, Lceanum Low's var, and insigne Dormani. Noticeable also were *Lælio-Cattleya Aurora*, *Lælia Gouldiana*, *Cattleya Dowiana*, several *Oncidium*s, *Cymbidium Traceyanum superbum*, and others (silver Banksian medal).

Orchids were, as is customary, sent by Messrs. J. Veitch & Sons, Ltd., Chelsea, and quality of plants and flowers took the place of quantity. Perhaps most conspicuous were *Cypripediums* insigne Chantini, Euryades, Arthurianum, insigne Sanderæ, Lceanum superbum, Niobe, Lceanum, and insigne Sanderianum, *Lælio-Cattleya Decia*, *Dendrobium atro-violaceum*, *Ionopsis paniculata*, *Cymbidium Traceyanum*, *Phalsenopsis Hebe*, *Dendrobium bracteosum album*, *Epidendrum Wallisi-ciliare*, and *Oncidium pectorale*, with several new *Lælias* and *Lælio-Cattleyas* (silver Banksian medal).

Messrs. F. Sander & Co., St. Albans, sent *Oncidium Rogersi*, with *Cypripediums* insigne giganteum, Madame Margaret Hye, Lceanum superbum, L. giganteum, nitens superbum, Albert Hye, Lceanum magnificum, and others. Mr. H. Holbrook, gardener to E. Ashworth, Esq., Harefield Hall, Wilmslow, showed a grand form of the Harefield Hall variety of *Cypripedium* insigne. Mr. G. Cragg, gardener to W. C. Walker, Esq., Winchmore Hill, sent a fine plant of *Dendrobium atrocarpum*, while Sir Wm. Marriott and Captain Holford (silver Banksian medal) with others, contributed smaller stands of Orchids.

CERTIFICATES AND AWARDS OF MERIT.

Asparagus Sprengeri compacta (H. B. May).—As almost everyone knows A. Sprengeri, all that is necessary with respect to description is conveyed in the varietal name (first-class certificate).

Calanthe revertens (W. H. White).—This is a handsome form. The large substantial flowers borne on the long spikes are of the richest rose crimson colour, the sepals having just a suspicion of white (award of merit).

Cypripedium insigne Harefield Hall variety (E. Ashworth).—Superb in every respect is this variety. The dorsal sepal is of immense size, with a very broad margin of white round the pale green chocolate spotted base. The pouch and petals are yellowish green veined and suffused brown (first-class certificate).

Lælia Digbyana purpurata (J. Veitch & Sons, Ltd.).—The sepals and petals of this hybrid are pale blush, while the beautiful lip is deep crimson, with a paler margin, and a primrose throat (award of merit).

METEOROLOGICAL ACQUIPOISES.—One of the undoubted features of the present winter season is its rain production, and with it equalising moisture requirements. Several weeks since, in making reference to this subject, I stated that, judged by annual average rainfalls, there was a deficiency of 15 inches to be made up. I do not know how many inches have fallen since that time, but probably several, so that now the deficiency is very materially lessened, and there is every reason to hope that in its own excellent way, not in one great flood, but by instalments, the entire deficiency will be made up during the winter season. So far it must be admitted the rains have been abundant, yet have given a minimum of inconvenience. Even if we knew nothing whatever by measurement as to the deficiency of rain, we have had ample evidence in the drying up of springs, lowering of wells, and general dryness of the soil, which during the autumn led to practical water famines in many parts of the kingdom. Seldom in the memory of the oldest of us had the deep subsoils been so dry, and it was marvellous that huge trees, with their roots deep in them, should have both been able to exist, and even to make good growth. If leafage does not absorb moisture from the air, that through root action alone seems all the more remarkable. It is now pretty certain that where next spring leafage again expands there will be at the roots a store of moisture that is almost unwonted, and should be productive of most beneficent results.—A. D.

DISEASED POTATOES.

"W. P.'s" specimens were remarkably infested by pests. One of the tubers had the eye end shrunk, blackened, and hollowed, as shown in fig. 79, *A* at *a*. In this part were found two wireworms *B*, or larvæ of the click beetle, *Elatér lineatus*, which sufficed to account for the damage there. At the heel end of the Potato existed an excrescence (*b*), warted, cracked, scabbed, and decayed; the colour, to a great extent, brown, but in the depressions black and moist. On the side there was also an excrescence (*c*), similar to the other at the heel.

In both the cracked and decaying hollowed parts a number of minute white creatures, about $\frac{1}{10}$ inch in length, were browsing. They belong to the Thysanura, or "spring-tails," but this form, *C*, named *Lipura fimetaria*, is not a "jumper." The animals are vegetarians, and live on Carrots, Parsnips, and other fleshy roots; but are probably not direct causes of mischief, as they are chiefly found on parts that have been injured or partially eaten by larger pests.

The other specimen of Potato, *D*, contained several protuberances on various parts of the skin, some (*d*) beginning, and others (*e*) more advanced in development. No trace of animal life was discovered in the cracks of the excrescences, which were black and moist, the warts being brown and scabbed.

Evidently the disease was not the ordinary Potato scab, though somewhat similar at the commencement of the infection, but instead of eating the tuber away, the infested parts swelled out somewhat after the manner of supertuberculation, yet in an excrescent, not regular, way. This proceeded, apparently for a time, then the tuber turned black where attacked, and the infection spread rapidly until the whole or greater part of the tuber decayed or dried up.

On examination in section, *E*, it was found that the skin (*f*) was wholly destroyed, and the tissue in contact blackened. The inner part of the flesh was also more or less streaked with brown, and concentrically (*g*), which communicated here and there (*h*) with the outside, whence the causing agent unquestionably commenced and passed from into the tissues of the tuber.

Now for the microscopic examination. A bit of the outer surface of the tuber *A*, from the part *b*, appeared as shown at *F*—a fungus, *Oospora scabies*. The fertile hypha (*i*) short, sparingly branched; conidia (*j*), concatenate, nearly globose; sterile hyphæ or mycelium (*k*) interlaced, and from which spring here and there globose bodies (*l*), with a dense wall, and the centre appearing like an eye. The erect hypha (*m*) could not be determined with certainty, as there were no conidia.

Not being satisfied that the *Oospora scabies* could cause the swelling, whatever it may have to do with scab, a section through the browned internal part of the tissues, shown at *G*, revealed something extraordinary. 1, There existed a cavity (*n*), which corresponded to the brown streak in *E g*. 2, The Potato cells (*o*) alongside were dead, only the cell-walls remaining in places in skeleton form. 3, In two of the living cells were amœba-like bodies (*p*). 4, An advancing spumous body or naked mass of protoplasm (*q*). 5, Four dark brown nearly black cells (*r*). 6, Some dead or empty cells adjoining the last named (*s*). 7, Living cells (*t*).

Other sections gave similar results. The brown part in *E* had been occupied by the amœba-like body, to wit, a slime-fungus or member of the lowest class of plants—*Myxomycetes*—and its action had caused the abnormal swelling of the stem of the host plant (a Potato tuber is an underground stem), similar to clubbing in Cabbages, and then invaded them, causing the blackness and ultimate decay of the tuber. The parasite unquestionably is akin to the genus *Plasmodiophora*, but produces a dry, not a wet gangrene. It may be *Pseudocommis vitis*, causing browning or "brunure" in Vine shoots, but I hardly consider the resemblance sufficiently clear. Only one thing is definite—namely, its malignity in the Potato. The black bodies contained round bodies or spores, are each (*u*) filled with protoplasm, and in due time, in the presence of food, there emerge from each in amœba like form (*v*), the so-called zoospores, which coalesce and form a plasmodium (*w*), and creep about in quest of food.

Besides the bodies already mentioned and some of the most important shown there were some bacterial (*Bacillus amylobacter*) in the wet parts, and the mycelium of a fungus (*Fusarium solani*), both connected with the "wet rot" of Potatoes; and there were also root-worm (*H*), said to cause China Aster sickness. It is *Enchytræus minutus*, *Tauber*. Likewise an eelworm (*I*), the well-known *Tylenchus obtusus*, and a mite (*J*) on its back, which is called *Rhizoglyphus echinopus*. The three last named were young larvæ; all are parasites, and such a number points to a sad condition of the soil.

In 1886 (according to my notes) I planted a piece of ground that had been neglected for many years, and when taken in hand had been crammed full of animal manure. The variety of Potato was Schoolmaster, and the crop went wrong, the tubers being swollen, scabby, black, and rotten. What few tubers were sound went to swell the

general heap, and there spoiled more than half the lot. The land was given a good dressing of best chalk lime, freshly burned, slaked, and spread while hot. It was forked in and left for the winter. By force of circumstances it was again planted with Potatoes, without manure, but received a good dressing of basic slag; nothing else. The crop was clean and heavy. What made the difference? The 10 stones of quicklime per rod, or the 1 stone of basic slag per rod sprinkled in the drills before covering up the sets? Perhaps both did something; but I suspect the lime was the more effective.

Another piece of land that had grown Potatoes for thirty years was planted with Magnum Bonum, and the tubers were nearly, but not quite, as bad as the Schoolmaster in places, and worst where not dressed with gas lime. We had gasworks, and the lime was left exposed until it approached sulphate of lime or gypsum. Five stones of that, with some freshly made, per rod drove out the enemy, and

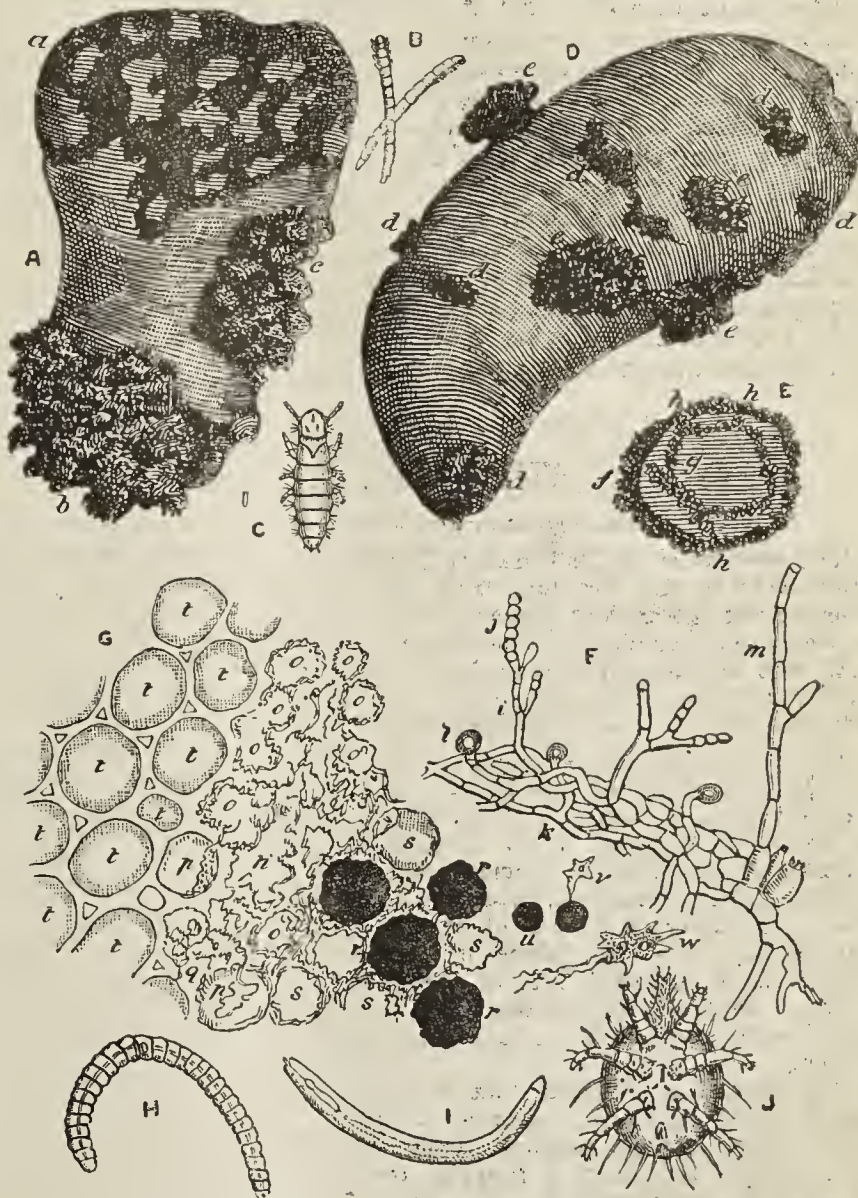


FIG. 79.—DISEASED POTATOES.

References.—*A*, badly affected; *a*, point where shrunk, blackened, and hollowed; *b*, heel-end scabbed; *c*, diseased on side; *B*, wireworms; *C*, white insect-like creature, natural size, and magnified; *D*, Potato showing early stages of disease; *d*, beginning of excrescences; *e*, protuberance more advanced; *E*, section through part of diseased Potato; *f*, skin on scales; *g*, brown tissue; *h*, points of communication with outside. (All preceding two-thirds natural size, except *Lipura fimetaria* in part). *F*, scab fungus, *Oospora scabies*; *i*, fertile hypha; *j*, conidia or spores; *k*, prostrate hyphæ or mycelium; *l*, globose bodies, with thick cell walls; *m*, undetermined hypha; *G*, section of diseased tissue; *n*, cavity; *o*, dead cells of Potato; *p*, amœba-like bodies; *q*, naked protoplasm; *r*, black cells; *s*, empty cells, adjoining the preceding; *t*, living cells; *u*, resting cell (so-called spores) of *Pseudocommis vitis*; *v*, naked protoplasm (so-called zoospore); *w*, plasmodium; *H*, root worm, *Enchytræus minutus*; *I*, *Tylenchus obtusus*; *J*, root mite, *Rhizoglyphus echinopus*; *G—J*, enlarged 174 diameters, except *u*, *v*, and *w*, which are enlarged 700 times.

we had a crop of Magnum Bonums at the rate of 25 tons per acre, clean, sound, and not coarse. Did this show the virtue of sulphur? Or was it lime again?

Some American mycologists advise dressings of sulphur to the soil, 2 to 3 cwt. per acre, sprinkling it on the rows before closing them, after setting. I have found flowers of sulphur rank poison to some plants when the soil contained a large amount of organic matter. The rubbing of Potato sets in flowers of sulphur before planting is also advised by English and American specialists for preventing Potato scab. That seems a feasible means, as I find it answers well for *Lilium* bulbs in preventing disease (*Botrytis galanthina*), and also *Narcissus* and *Tulip* rot (*Penicillium glaucum*).

Oospora scabies is not far removed from them, so there may be something in it. But for the Potato scab, as presented in the specimens submitted to the Editor by "W. P.," there is no cure or preven-

tive, so far as I know, save by liming the affected land and the immersion of tainted sets in mercuric chloride or corrosive sublimate solution, 1 part in 1000 parts water, or 1 oz to 6½ gallons of water for an hour and a half. This is poisonous, not harmful, however, unless taken into the stomach. It kills slime-fungus, even *Pseudoommissa vitis*. So also does gas lime, not by the sulphur, but the cyanogen or poisonous matter it contains, and the lime aids in keeping the enemy off afterwards.

This pest I have personal record of in 1844 and since on Potatoes, and on Vine roots in 1886—the laterals browned; even strong young shoots were blackened at the ends, and a fungus followed. A good dressing of lime on the border stopped the evil. It was the worst on Vines in pots, and attacked Tomatoes, Cucumbers, and Melons, causing the points of the shoots to blacken and die. It was considered to come from the beds of leaves in the pits of the structures, but that was mere conjecture. Prevention by destroying the germs is the only sure way to avoid diseases.

To destroy the other pests, immediately after the lime has been forked in apply 7 lbs. of kainit per rod, and leave it on the surface for the rains to wash in. On a large scale, for Potatoes, I should in bad cases dress with 10 tons of lime and 10 cwt. of kainit per acre in the autumn, applying the lime first, ploughing in, and then supply the kainit on the upturned soil, following in the spring with 1 ton of basic slag and 5 cwt. of rape seed meal per acre on rather strong land, but on light use the same quantity of bonemeal as of rape dust, instead of the basic slag. When the land is not badly infested half the amount of lime and kainit may be used per area quoted.—G. ABBEY.

THE YOUNG GARDENERS' DOMAIN.

OXALIS CRENATA—THE OKA PLANT.

Is it that the British epicure is less inclined for vegetable novelties at his dinner table, or is it because there are fewer epicures on this side of the Channel that our French friends use a greater variety, and are ahead of us in the cooking and cultivation of many choice vegetables? However it may be, we probably do not suffer thereby, for a simple wholesome diet has always proved more conducive to health and long life than a luxurious one. Nevertheless, we should be ready to give a fair trial to a new or uncommon article of food whose worth has been tested.

Oxalis crenata is a plant of the same natural order as the common Wood Sorrel (*Oxalis acetosella*). It is a native of South America—the same country as the Potato—and is as susceptible as that vegetable to injury from frost. The leaves are trifoliate, as usual in this genus, but they are thicker in substance than most of the species. The stems are succulent and prostrate; they vary in length from 1 to 2 feet, and are about one-third of an inch in diameter.

The tubers at the root are the edible portion of the plant. With us they attained a length of about 2½ inches and a breadth of 1¼ inch. They are of a reddish colour, but I believe there is grown in France a variety which produces yellow tubers. In form they resemble small Jerusalem Artichokes, but are more elongated.

The natives of Peru and Bolivia use them largely as food, previously exposing them to the sun to rid them of their acid properties. We have tried boiling them in water for about half an hour, and although they still had a slight acid taste it seemed to us rather a favour than a fault—at least, for the palate. Some say, however, that in great quantity they might be injurious as a food if the acid (oxalic acid) were not neutralised.

They may be grown in a similar way to Jerusalem Artichokes—in rows 3 feet apart and about 2 feet between the plants in each row. As they require a long growing season they should be planted in the open ground as early as possible to be safe from much frost. If a hotbed could be spared they might be started therein in March and planted outside in May. They should be lifted in November, or just after the stems have suffered from frost and the leaves got blackened. The leaves and young stems have been used as a salad.—X. L. C. R.

BOUVARDIAS.

In continuing (from page 308) my remarks on these useful plants, I would say that the young plants will soon fill the 3-inch pots with roots, and will then require more root room, and pots sufficiently large to carry the plants through their flowering season ought to be employed. Five and 6-inch will probably be found suitable, for if Bouvardias are over-potted bad results are certain to ensue. A compost consisting of fibrous loam two parts, leaf soil one part, a sprinkling of coarse silver sand, a little dry stable manure, or some well proved plant manure, thoroughly incorporated, can be used. When the potting is completed place the plants in a cool house near the glass, and admit abundance of air on warm days.

About the second week in June the plants may be moved outside into a cool pit where they can have room to develop, for if crowded they become drawn and produce weak growths, but a little shading should be used to keep the sun from burning the leaves. To insure well-ripened wood for flowering air must be given the plants at all suitable times, and great care must be exercised in watering. Weak liquid manure can be applied when the pots are full of roots. Syringing is beneficial to the plants, and should be carried out both morning and evening on all bright

warm days. Keep the growths well pinched until the end of July. At the first sign of frost the plants should be placed in a cool house, where some will soon begin to flower, and by placing a few plants at intervals in a house with a higher temperature a succession can be had from October until February.

Bouvardias are subject to the attacks of red spider and green fly. By the frequent use of the syringe the former has a poor chance to survive, and with an occasional fumigating the latter can easily be dispersed.—A JOURNEYMAN.



FRUIT FORCING.

Cherry House.—Houses that are to be employed for supplying ripe Cherries from the middle of April and onwards must now be closed. Be sparing of fire heat at the commencement, not employing it unless absolutely necessary to maintain the temperature at from 35° to 40° at night, and 40° to 45° by day, ventilating when the temperature rises to 50°, above which admit air fully, but not so as to cause a decline below that heat, and close the house at 50°. Early closing, however, must not be practised to the extent of raising the temperature to a high degree, 5° being the extreme at this stage, as Cherries are very susceptible of undue excitement, and failure is the consequence. Syringe the trees, paths, and walls early on fine afternoons, so as to admit of the buds becoming dry before nightfall. The border will be sufficiently moist for some time through the removal of the roof-lights, if not it must have water to bring it into an even and thorough state of moisture. Trees in pots, if dry, will require repeated supplies of water to secure the thorough moistening of the soil down to the drainage.

Figs.—*Early Forced Trees in Pots.*—Very early Figs are best secured from trees in pots, and where they can be given a slight warmth at the roots to accelerate root action and maintain a steady progressive growth. Early Violet, St. John's, Brown Turkey, and Pingo de Mel have proved the most reliable varieties with us for producing first-crop Figs under a forcing régime or when brought on gradually and not subjected to too much heat in the early stages. This is apt to occur with too much bottom heat, which unduly excites growth and the swelling of the embryo Figs, with the result that they are often cast. To avoid such disaster the heat at the base of the pots should not exceed 70° until the leaves are unfolding, then it may be increased to 75° or 80°. That is quite sufficient, the fermenting material being added to as required to maintain the heat regularly.

The top heat should commence with 50° to 55°, and should be gradually increased to 60° at night, 65° by day by artificial means in severe weather, and 70° to 75° with sun heat and moderate ventilation, closing at 75°. In mild weather admit a little air between 60° and 65°, just a "crack" at the top of the house to let out any pent-up moisture and insure circulation. In cold weather the pipes radiating heat will keep up a circulation, and the moisture will be condensed on the glass, therefore ventilation is not then required. Afford water whenever necessary, always in a tepid state. Syringe the trees in the morning and early afternoon, so as to have the foliage dry before nightfall, but avoid excessive moisture, damping the house only in dull weather.

Vines.—*Early Forced in Pots.*—If the pots are placed on pillars in the pits the fermenting materials will need frequent additions as the heat declines, bringing the material up about the pots so as to maintain a steady bottom heat of 70° to 75°. This gentle warmth accelerates root activity and admits of better progress than when the roots are not thus incited. The temperature of the house will have been gradually raised so as to have it 60° to 65° at night by the time the Vines were coming into leaf, and 70° to 75° by day, admitting a little air at 70° without lowering the temperature or causing an influx of cold sharp air, and close early in the afternoon. Disbud as soon as the bunches can be detected, reserving the most promising. Stop the growths about two joints beyond the bunches, and remove the laterals up to these, and allow those beyond to extend as space permits without crowding, it being important that the foliage have full exposure to light. Two or three joints of lateral extension are sufficient for Vines in pots, the crop preventing much further extension. If the Vines show two or more bunches on a shoot remove the least promising before they flower, and do not allow more to remain than will be necessary for the crop. Damp the floors and walls in the morning and afternoon, and charge the evaporation troughs with liquid manure.

Early Forced Planted-out Vines.—When the eyes break the temperature will need to be increased to 60° at night in mild weather, and 55° when severe, gradually increasing it so as to have it 60° at night when the Vines are in leaf, and from 65° to 75° by day, with moderate ventilation. Sprinkle the floors and surfaces of borders two or three times a day in clear weather, avoiding too damp or too dry an atmosphere. The borders must be watered as required to maintain an even moisture, but avoid making the soil sodden.

House to Afford Fruit in May.—The house to afford Grapes fit for table at the time must be started without delay. A bed of leaves and litter

placed on the floor of the house, turning a portion of it daily, so as, to supply ammonia to the atmosphere and maintain a steady fermentation, is saving of fuel and conduces to a good break. Outside borders must have the needful protection from cold rains and snow; a few inches thickness of dry leaves and a little litter over them answers when the Vines are planted inside, but where the border is all outside a covering of warm litter is preferable, two-thirds of leaves to one of stable litter affording a less violent heat, but more lasting heat, than manure alone, adding fresh material as necessary. The inside borders may be rendered thoroughly moist by applying water, or, in the case of weakly Vines, liquid manure. Start with a night temperature of 50° in severe weather, 55° in mild weather, and 65° by day, except the weather be cold, when 55° will be more suitable. This slower work is better than a high forcing heat, which induces a weak growth, and we do not advise those temperatures to be exceeded until the growth commences. Depress young canes to the horizontal line, or lower, to insure the regular breaking of the buds. Maintain a genial atmosphere by syringing occasionally, but avoid excessive moisture and keeping the rods dripping wet, which excites the production of aerial roots from the rods.

Midseason Houses.—Vines, leafless and cleared of crops, will be pruned and at rest; if not, complete the work, and cleanse the houses without delay. Where the Grapes are partially cut the remainder may be removed with a good portion of wood attached, and if the stems are inserted in bottles of water the bunches will keep admirably in a dry room from which frost is excluded; thus the Vines will be liberated for pruning and the house for cleansing, repairs, and painting. A long and complete rest invigorates Vines, and early pruning effects that better than anything else.

Late Houses.—Vines that have the foliage all off will only require sufficient fire heat to exclude frost, but Muscats require a temperature of 50°. Black Hamburgs, however, shrivel in that heat, 40° to 50° being sufficient for them and thick-skinned Grapes.

THE KITCHEN GARDEN.

Asparagus.—No vegetable is more easily forced than Asparagus, and no other gives greater satisfaction after it is grown. In order to have it quickly and early it is necessary to break up an old bed for the roots, or to prepare the requisite number of strong young plants and lift these for forcing as required. It must also be remembered that the forced exhausted plants are of no further value. Heated pits are the best places for forcing Asparagus, the heat being turned on in the coldest weather only. Asparagus can, however, be had in three weeks or so in frames without the aid of fire heat. In either case a moderately deep hotbed of leaves and stable manure is desirable, a gentle moist bottom heat of about 65° to 70°, with a top heat of 55° to 60°, answering much better than a stronger dry heat. A frame on a hotbed can be kept sufficiently warm by means of a lining of fresh material, with mats and straw litter over the lights. Cover the hotbed with about 3 inches of rich soil, and put a similar depth over the roots when they are in position.

Lifting Broccoli.—Strong growth was late in commencing, and, thanks to the mildness of the autumn, has been sustained much later than usual. As a consequence the plants are not so hardy as desirable, and as the best of the early varieties are among the tenderest, it is all the more desirable that protection should be afforded. The best way out of the difficulty is to lift a good portion of the old plants, remove some of the older leaves, pack closely together in pits in cool vineries, cold pits, deep frames, and the like. A little soil should be saved about the roots, and the latter ought to be firmly re-covered with rich soil, or soil and manure. Keep them constantly moist at the roots, and protect from frost. Thus treated neat hearts of the best quality will develop, these proving most acceptable. Those more advanced or nearly or quite fit for use must be kept closely covered with their own and added leaves, but they would be safer lifted and packed away in a covered shed or cool cellar, where they will keep well for two or three weeks.

Parsley.—In some gardens Parsley is comparatively scarce, and what plants there are have not made good progress. A severe frost might destroy these, as well as much stronger ones, and with a view to being on the right side a portion should be forked up, taking care to save the tap roots, replanting somewhat thickly in boxes, deep pots, or beds of good soil. The pots and boxes may be stored in Peach houses and cool vineries, and those in frames or pits be protected in cold weather. Later on forcing may be resorted to, and an early supply of young leaves be obtained. Early next year sow seed on a gentle hotbed, and if a portion of the young plants are duly planted out in a sheltered position, leaving the rest to grow where they are, an abundance of good Parsley will be obtained long before plants raised by sowing in the open ground will be ready to pick from.

Forcing Rhubarb.—There has been just enough frost to prepare the clumps of Rhubarb for forcing, and if a few or many are lifted, packed closely together in a Mushroom or other heated house, and surrounded by rich moist soil, strong stalks in abundance will soon result. Forcing the roots where they are well established is a slower process, but in this case the clumps are not weakened to the extent of being of no further value. Rested one winter after forcing they again become equal to producing a heavy crop of early stalks.

Forcing Seakale.—The younger roots of these may be lifted, trimmed somewhat, packed closely together in boxes or pots of soil, and then forced in a brisk moist heat and well darkened position, or they may be packed in beds of rich soil in a heated Mushroom house, introducing fresh batches every fortnight. The older plants, arranged in groups, may be covered and forced similarly to Rhubarb.

THE BEE-KEEPER.

BEE-KEEPERS' REQUIREMENTS.

IN addition to the necessary articles required by modern bee-keepers mentioned in previous notes, we would here refer to comb foundation, which is one of the greatest aids to success. This essential is too well known to need description, but we may state that the genuine article is made from pure wax, which is rolled into sheets varying in thickness. Those intended for supers usually run about sixteen sheets, standard frame size, to the pound; whereas those used for the brood chambers will be of double thickness.

When it was first introduced it was chiefly used in narrow strips, secured to the top bar of the frame; from this the bees built their combs perfectly straight, but much valuable time was lost in the operation. Since then great strides have been made in the manufacture of foundation, and at the present time many tons of wax are annually made into foundation in this country alone, as sheets of it may be obtained to fit any size frame at a very small cost above the price of ordinary wax.

It will readily be seen the great advantage from using full sheets of foundation, when we take into consideration the large amount of honey it is necessary for the bees to consume before they can manufacture 1 lb. of wax—how much we are unable to say. We have heard many well-known bee-keepers express an opinion on this subject, and have often heard authorities state that at least 20 lbs. of honey is necessary to produce 1 lb. of wax. We think the above figures are too high, but have no doubt that it will take at least half that amount.

Whether the higher or lower figures are correct is immaterial; it shows the benefit bee-keepers derive from using it. If full sheets of foundation are used the bees will at once commence to draw out the cells, and in an incredibly short time a strong colony will have all the cells drawn out the required length. This may be observed more readily with a natural swarm than with an ordinary stock. Within twenty-four hours the queen will have laid some thousands of eggs, and if the weather is favourable honey will at once be stored. Should the weather be dull or showery the bees may be kept employed in drawing out the foundation by feeding with a pint of syrup daily until a favourable change takes place in the weather.

We would strongly advise a beginner to use full sheets of thick foundation; there will then be less danger of a mishap than if the thin is used. After a little experience foundation of any degree of thinness may be used with impunity in the brood combs.

The plan we usually adopt is to place a frame filled with thin foundation between two fully drawn out combs, draw the other combs and the division board close up, and within twenty-four hours all the cells will be fully drawn out, the comb will be securely fastened to the ends of the frame, and many of the cells will already have eggs laid in them.

It will thus be apparent to the most casual observer how beneficial foundation is to the bees, by providing them with breeding and storing space without having to manufacture the wax to make the comb used for that purpose, and the bee-keeper is benefited by obtaining a larger surplus from his bees. The top bar of the frame should be split, and the edge of the sheet of foundation placed in the opening; a nail will hold it in position, a couple of wire foundation fixers placed on each side will prevent it sagging. These may be removed twenty-four hours afterwards.—AN ENGLISH BEE-KEEPER.

CESTRUM AURANTIACUM.—Too much cannot be said in favour of this free-flowering plant, for it combines the qualities of being highly ornamental and easily cultivated and, moreover, it can be grown in such a variety of ways that it will be found suitable for almost any position. Grown in pots it makes an excellent decorative plant for conservatory or dwelling house. Planted in a border it makes a fine bush, and grown against a pillar with the main branches only supported it is possibly seen to better advantage than in either of the previous ways. Whichever way it is grown all young wood should be spurred back in January. As the young growths appear they should be thinned, leaving only sufficient to furnish the plant. A top-dressing of decayed manure will be found beneficial at this period. Early in July the first crop of flowers will appear. After these flowers are over the plant should be allowed to grow, and a second crop of flowers will be had in September, these being followed in December by a third crop. The flowers are orange coloured and produced in terminal, branched inflorescences from the point of each shoot. Soil such as is used for Chrysanthemums is suitable for this. It is a native of Guatemala, and succeeds well with a minimum winter temperature of 40° Fahr.—D. K.



TO CORRESPONDENTS

•• All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Books (J. D.).—If you send 1s. 6d. to Mr. Elliot Stock, 63, Paternoster Row, London, E.C., and ask for "Hoppus's Timber Measurer," you will not have much difficulty in ascertaining the cubic contents of trees.

The Heaviest Bunch of Grapes (C. E. B.).—In one part of our reply last week we are made to say that "24 lbs." 4 ozs. was the weight given by Mr. Currer of his wonderful bunch. In other parts of the reply the weight stated by him was given as 26 lbs. 4 ozs. when the bunch was cut. This is correct. While the error might thus not mislead many, if any, readers, it ought not to have occurred.

Forcing Roses—Wood not Ripening (S. S.).—There should be no difficulty in having Roses sufficiently ripened for forcing at the beginning of the year, and we think you cannot expose your plants to the open soon enough. So long as pot Roses keep in healthy growth and produce flowers—especially the Tea-scented varieties—under glass, many growers are apt to keep them in the house too long. A plant started by January or February should have made ample growth for the following season by the end of August, and may then be assisted to ripen by a careful use of the watering pot. Why not start your plants a month earlier? You do not say, however, what heat or conveniences you have. Much depends upon the varieties grown. We expect to publish a short article upon this subject in a subsequent issue.

Tenancy (A Gardener).—Under the Agricultural Holdings Act you are entitled to a full year's notice. If your tenancy dates from the 1st January the notice must have been given you on or before December 31st, twelve months before the date of your leaving. You cannot be compelled to leave at any quarter day but that on which your tenancy begins. You are entitled to receive compensation for all your furnaces, greenhouses, trees, and shrubs, unless the landlord chooses to pay you for the damage done to them in requiring you to take them away with you. He must also compensate you for the value of fertilisers put into the soil by you. Under the present circumstances it would be best for you to agree to take away all the plants and things peculiar to your nursery business, receiving compensation for their forced removal, and also for the manure sunk in the soil. Your landlord is the purchaser of the land if he has given you notice or your old landlord has referred you to him.

Tecoma radicans (Young Grower).—Sometimes this climbing plant is pruned in the winter, cutting the young shoots back as may be necessary, but the better plan is to keep the young growths thinly disposed in the summer. They will then mature and produce flowers if trained on a sunny south wall. It is difficult to ascertain when this beautiful deciduous climber was introduced to this country from North America, its native place of growth. It was evidently cultivated in this country by Parkinson in 1640, as he described it minutely, adding, "This never bore flower with mee, nor any other that hath it in our country that I could heare of." From that we may infer it could not have been long and generally cultivated, as the plant blooms freely enough when a few years old and the wood is well ripened. It used to be called *Bignonia radicans*, but was transferred to *Tecoma*, the difference in the genera consisting chiefly in the partition of the fruit. Plants are raised from cuttings and layers in the autumn, and grow luxuriantly in rich soil, but firm growth in firm soil containing chalk promotes flowering. It is popularly known as the Ash-leaved Trumpet Flower.

Crickets in Plant Houses (W. P. and Anxious).—The most effective exterminator of these pests with us has been phosphor paste, spread on slices of bread. The pests usually eat this readily, especially when mixed with a little honey. The phosphor paste may be procured of any chemist. Other preparations are also sold for the purpose, but both crickets and cockroaches will not always eat the same thing, and, therefore, if one remedy fails another should be tried. Chocolate, used in Birkenhead's beetle trap, captures many, and the trap may be had from ironmongers.

Colours of Flowers (An Apprentice).—We do not know of any work treating on the colours of flowers with illustrations. The process of colouration is a chemical one, and was gone fully into by Chevreul, who in his book has something to say as regards flower colouring. The arrangement of different coloured flowers in beds is treated in Mr. D. Thomson's "Handy Book on the Flower Garden" (Blackwood & Sons, 7s. 6d.). Chevreul's book may possibly be procured through a second-hand bookseller. We do not think, however, it would be of much service unless you have some knowledge of chemistry and kindred sciences.

Dissolving Bones (F. J. B.).—To 2 lbs. of bonemeal, perfectly dry, add 1½ lb. of water and 1½ lb. of sulphuric acid, mix, and these if left to act on each other for twenty-four hours, should form superphosphate of lime, nothing else remaining. The bones used to form the superphosphate must contain the essential phosphate of lime (55 per cent. or more), that is, they must be fresh, or at least sound, for it is useless expecting the sulphuric acid to act on old and decayed bones that have lost the greater part of the phosphate of lime through the acids of the soil and abstraction by the roots of plants, leaving little beyond carbonate of lime.

Are Laurustinus Prunings Injurious to Cattle? (C. P., Dorling).—We are not aware that fresh growths have any injurious properties, though the prunings smell very offensively shortly after being cut. In such state they may contain some deleterious properties, as we have noticed that both rabbits, hares, and cattle leave them severely alone, whilst they browse freely upon the bushes without any evil effects. The berries contain an acrid principle and are very hot, inflaming the mouth; they are also violently purgative, with action on the uterus, which may cause cows to throw their calves prematurely. We have not, however, any direct evidence of this, for in a supposed case the mishap was traced to "ergot" on grasses in a plantation to which the cattle gained access by a gap in the fence. We have also known "calf picking" to follow in heifers after partaking of Savin (*Juniperus sabina*), and to suffer seriously from chewing partially dried or recently cut Yew hedge clippings, in some instances death resulting.

Planting Mint (J. K.).—If as you say, the present bed is beginning to fail, by all means plant a new one. In some soils this valuable culinary herb is liable to be more or less seriously attacked by a fungus after a bed has been established three years. Choose a fresh site, work the land deeply, and enrich it. A quantity of charred vegetable refuse, including wood ashes, is a good addition to ordinary manure, as also is lime in most gardens. Do not plant until the Mint grows to the height of 3 or 4 inches in the present bed, then in dull showery weather loosen a number of these shoots with a small hand fork, and draw them out. You will find more or less of white roots bristling from the stems. Plant these rooted sucker growths rather deeply and firmly with a dibber, 6 inches apart in rows a foot asunder, water them well in and a few times subsequently, as may be needed; also run a small hoe between the rows occasionally, and you will soon have a strong Mint bed. We have found this plan much better than planting dormant underground stems. Do not cut from the new bed during the season of planting.

Books (Young Gardener).—Any intending candidate for the R.H.S. examinations can obtain a list of books by writing to the Secretary Royal Horticultural Society, 117, Victoria Street, Westminster. The prices are not given. The books, you will find, are mostly of a scientific character, and some of them too costly for a large number of young gardeners. A good "general book on flowers, fruits, and vegetables, giving also the natural orders of plants," will be found in the "Gardeners' Dictionary" (Bells and Sons), price, we think, about 8s. If you want the most practical information on the cultivation of vegetables, fruit, and florists' flowers for the least amount of money, send 1s. 9d. in stamps to the publisher of the "Garden Manual," 12, Mitre Court Chambers, Fleet Street, London. It is not necessary to add the book on botany you mention to those you have. Masters' "Plant Life" would be better. Cousin's "Chemistry of the Garden" contains much valuable information for 1s. (Macmillans). Write to this firm for their list of gardening books (St. Martin's Street, London, W.C.) and judge for yourself. Selection has to be considered with the amount of money you are prepared to invest.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens,

whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (D. F.).—Pear, Easter Beurré; Apple, Golden Winter Pearmain. (G. M.).—1, Rymer; 2, Waltham Abbey Seedling; 3, Royal Russet; 4, Adam's Pearmain; 5, Golden Reinette; 6, Dredge's Fame. (S. S. P.).—1, Round Winter Nonesuch; 2, Sturmer Pippin; 3, Alfriston; 4, Warner's King; 5, Bramley's Seedling. (C. H. F.).—1, Catillac; 2, Uvedale's St. Germain; 3, Vicar of Winkfield. (H. J. R.).—1, Kentish Fillbasket; 2, Cornish Gilliflower; 3, Hoary Morning; 4, Mannington's Pearmain; 5, New Hawthornden; 6, Golden Noble. (G. A. J.).—1, Lane's Prince Albert; 2, Dumelow's Seedling; 3, Cox's Pomona; 4, Roundway Magnum Bonum; 5, Lord Derby; 6, Blenheim Pippin. (R. M.).—1, Cox's Orange Pippin; 2, King of the Pippins; 3, Cockle's Pippin. (W. T.).—1, Possibly a rough fruit of Lemon Pippin; 2, Rosemary Russet.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (W. E.).—1, *Nephrolepis davallioides*; 2, *Adiantum assimile*; 3, *Microlepia hirta cristata*; 4, *Adiantum pubescens*. (P. C.).—1, A good form of *Cypripedium insigne*; 2, *Oncidium sarcodes*; 3, *Woodwardia radicans*. (M. J. B.).—1, *Eranthemum pulchellum*; 2, *Eurynymus europæus*, the Spindle Tree; 3, *Cupressus Lawsoniana*; 4, *Polystichum aculeatum lobatum*; 5, *Adiantum cuneatum grandiceps*; 6, *Lastrea setigerum*.



TRIALS OF FIELD POTATOES.

THE Cheshire County Council, having founded an Agricultural and Horticultural School at Holmes Chapel, has been wise enough to organise a series of experiments in connection with and under the supervision of the same, and seeing that Cheshire takes a prominent place in the production of the Potato, and is also near to large centres of consumption of that vegetable, it is but natural that they have put the cultivation of it in a prominent place at their experimental farm.

By the courtesy of Mr. Gordon, the Superintendent of the School, we have been favoured with a copy of the report on the Potato experiments, and we are so much impressed with their thorough and comprehensive nature, that we are convinced the results are worthy of being very widely disseminated. This is the third successive year of these experiments, and the objects in view have been:—

I, To test the productiveness, character, and quality of a considerable number of varieties, especially new ones, a small quantity of each being planted.

II, To show more thoroughly on a large scale the characteristics, yield, and cooking qualities of those varieties which gave the best results in the previous year's trials.

III, To test whole sets *versus* cut sets.

IV, To try the effect of sets of different sizes.

V, To see if artificial manures have much effect upon the yield when applied with farmyard manure; also to try the effect of different nitrogenous and potassic manures.

VI, To mark the effects of disease on different varieties, and the results of spraying as a remedy.

The field in which the experiments were tried is loam, and a crop of unmanured Oats was taken the previous year, but as it had been in grass for eighty years there was a large residuum of decomposed

sod and organic matter still available, so that it could hardly be considered in an ordinary state, but in a highly rich condition especially as regards nitrogen.

This is proved by an analysis of the soil, which shows a percentage of 8.27 of organic matter, equal to 0.50 per cent. of ammonia. As an average soil would not contain more than 0.30 per cent. of ammonia the relative richness of one containing 0.50 per cent. must be fully considered when calculating the results. The proportions of potash (0.42) and phosphoric acid (0.21) are also much above the average, so that in looking at the results of these experiments we must rate the conditions for producing heavy crops as being most favourable.

On such a soil as this, with the assistance of fifteen loads per acre of manure as well as a fair dressing of artificials, the Potato that would not produce a decent crop can hardly be worth a name, and the well-named and recommended varieties here put to the test naturally produced all-round crops much above the average.

We subjoin list of produce of most of the leading varieties, at any rate of those best worth recording. The following were tested in large plots:—

VARIETY.	SMALL.		DISEASED		TOTAL	
	T. cwt.	qr.	T. cwt.	qr.	T. cwt.	qr.
1st Early.—Early Beauty ...	0 16	1	0 3	2	11 1	0
„ Hough Favourite ...	0 14	1	Nil	...	11 2	3
„ Snowdrop ...	0 11	2	Nil	...	11 5	1
„ Red Elephant ...	0 18	0	Nil	...	12 3	0
„ Early Market Favourite ...	0 17	2	0 2	0	14 0	1
„ Hough Champion ...	1 17	3	Nil	...	15 8	0
„ Challenge ...	0 15	2	0 9	0	17 1	2
2nd Early.—Sutton's Epicure ...	0 11	0	Nil	...	14 5	3
„ British Queen ...	0 17	2	0 8	1	18 11	1
Late. — Mainerop ...	0 10	2	0 1	0	13 2	3
„ Cheshire Delight ...	0 12	3	Nil	...	13 13	1
„ Hough Abundance ...	0 7	2	Nil	...	14 1	1
„ Good Hope... ..	0 8	2	Nil	...	14 11	2
„ Lady Ward... ..	0 14	3	Nil	...	15 4	1
„ Sutton's Reliance ...	0 14	0	Nil	...	15 7	0
„ County Councillor ...	0 7	0	Nil	...	15 9	0
„ Dickson's Grand Monarch ...	0 9	2	Nil	...	16 12	2
„ Hough Giants ...	0 5	3	0 1	2	20 4	0
„ Up-to-Date... ..	0 15	3	0 1	3	21 3	1

There is nothing very startling in the above figures, for though the gross results are much in favour of the later varieties, the difference is hardly as great in some cases as we should have expected, and we fancy that on soil in an ordinary state of cultivation, vigorous kinds, such as the Up-to-Date, would have shown greater superiority to such as British Queen or Challenge. But it is hardly fair to compare early and second early Potatoes with late ones, and at any rate the above three were all proved to be excellent in their respective classes.

One hundred and thirteen varieties were also tried on a small scale, 7 lbs. of each being planted. Many of them, especially the early ones, proved to be of little value, but the results with regard to the sorts already mentioned, fully bore out those of the larger trials; but although Challenge held its own as being the best first early, both British Queen and Up-to-Date found heavier cropping rivals, British Queen being beaten by Fidler's Queen (first), British Lion (second), Daniels' Special (third), and Kerr's Professor, whilst Up-to-Date had to give way to Scottish Triumph and Kerr's General Roberts. Scottish Triumph was the heaviest crop of all, though slightly touched with disease.

There is one point about these experiments that strikes us, and suggests a further test. All the varieties seem to have been lifted when fully ripe, and this may mislead one as to the true value of the earlier kinds which are required for market long before they are ripe. It would be both interesting and instructive to have records of weekly or fortnightly liftings of portions off the plots of these sorts.

The trials of whole sets *versus* cut sets produced what was practically a tie for three trials, ended in favour of one and three in favour of the other; but cut sets produced fewer chats and larger saleable Potatoes.

The trials with different sizes of seed proved most conclusively

that as regards the Maincrop (the variety used for these tests) a large sized set is the best.

	tons.	cwt.	q.
Set between $1\frac{1}{4}$ and $1\frac{1}{2}$ inch, cut in two, produced	8	1	2
" " $1\frac{1}{4}$ and $1\frac{1}{2}$ inch, whole produced	10	13	0
" " $1\frac{1}{2}$ and 2 inch, " " "	11	18	2
" " 2 and $2\frac{1}{2}$ inch, " " "	12	10	1
" over $2\frac{1}{2}$ inch " " "	17	13	3

This all against the very small and in favour of the very large set, and as the Maincrop is a shy yielder and not a strong grower, it would seem advisable to use large sets of this variety; but it does not follow that there would be the same result with others, and probably in such as Up-to-Date, Giants, Imperators, and others which are apt to grow very large, a moderate sized set would bring as good a result as a large one.

The trials of manures have shown that artificials will pay when used on very rich soil and in addition to a heavy manuring. The results of the various mixtures are, however, not sufficiently consistent to be very conclusive.

Superphosphate seems to improve the size as well as the bulk.

Sulphate of ammonia gave the best results of the nitrogenous manures.

Muriate of potash gave a better result than sulphate of potash, but kainit was considerably below either.

As a whole the trials have been very satisfactory, and well worth the trouble and expense they have cost the county of Cheshire, and we must congratulate the County Council, also Mr. Gordon and his staff, on the admirable manner in which they have carried out the work.

WORK ON THE HOME FARM.

We are still ploughing fallows, and there has been so much rain the last few days as to make the work go none too well, even on light land. We do not like to plough land in a wet state, but it is time that the work was finished, and we must trust that there will be a sufficiency of frost to correct any evil effects.

We have a breadth of Turnip land behind the sheep ready and waiting for the plough, but we shall defer turning it over until the weather is more favourable.

Sheep are doing well this season; they keep healthy, and losses have been very small. We have just had the lambs dipped again, and they will be all right now until clip-day. Turnips are lasting out well, having continued growing much later than usual. Swedes, too, have done well lately, and there should be a sufficient winter supply of roots, though nothing like a plethora.

As sheep are doing so well it will be advisable not to increase the cake yet awhile. January will be quite soon enough, unless the weather changes materially, when we should recommend an increase, at the same time remembering the flowers of sulphur twice a week, which is such a safeguard when young animals are undergoing a forcing treatment.

There is now a good opportunity to attend to the fences, particularly big old hedges which require taking down. The usual custom is to plash and lay in such hedges, but we prefer to take them right down to about a foot high, and make a thoroughly new start from the bottom.

For one thing, a plashed hedge always requires protecting for at least three years against cattle and horses, and if the cost of the stakes, which are not required for the more drastic plan, is spent in improving and making more permanent the protecting wire or beard, the expense would not be more, but rather less, for plashing done well is expensive work. There is no doubt that the hedge taken right off would afterwards grow much more vigorously, and if properly attended to make a better and more lasting fence than the plashed one.

AMERICAN PROSPERITY AND GRAIN PRICES.—By the latest telegraphic intelligence from the United States we are told that signs of prosperity abound on every hand. Money is so plentiful that the savings banks are forced to reduce their rate of interest, and they, in common with other large guardians and investors of capital, experience great difficulty in finding remunerative investments. Money is so plentiful in the West because of the high prices for Wheat, corn, and Oats, that farmers are paying off mortgages in advance of the expiration, thus reducing the field of investment. It is estimated that the value of the corn and Oat crops this year, while these are only slightly larger than those of last year, will be \$3,000,000 dollars greater because of the higher prices. This, assuming all to be true, ought to have a favourable reflex action on British agriculture; but our home farm authority should know best about that.

COVENT GARDEN MARKET.—DEC. 14TH.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve	1	3 to 3	Lemons, case	30	0 to 60
Cobs	45	0 50	St. Michael's Pines, each	2	6 5
Grapes, lb.	0	10 1			

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100	0	0 to 0	Mustard and Cress, punnet	0	2 to 0
Beans, $\frac{1}{2}$ sieve	0	0 0	Onions, bushel	3	6 4
Beet, Red, doz.	1	0 0	Parsley, doz. bnchs.	2	0 3
Carrots, bunch	0	3 0	Parsnips, doz.	1	0 0
Cauliflowers, doz.	2	0 3	Potatoes, cwt.	2	0 4
Celery, bundle	1	0 0	Salsafy, bundle	1	0 0
Coleworts, doz. bnchs.	2	0 4	Scorzonera, bundle	1	6 0
Cucumbers	0	4 0	Seakale, basket	1	6 1
Endive, doz.	1	3 1	Shallots, lb.	0	3 0
Herbs, bunch	0	3 0	Spinach, pad	0	0 0
Leeks, bunch	0	2 0	Sprouts, $\frac{1}{2}$ sieve	1	6 1
Lettuce, doz.	1	3 0	Tomatoes, lb.	0	4 0
Mushrooms, lb.	0	6 8	Turnips, bunch	0	3 0

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz.	6	0 to 36	Ficus elastica, each	1	0 to 7
Aspidistra, doz.	18	0 36	Foliage plants, var., each	1	0 5
Aspidistra, specimen	5	0 10	Lilium Harrisii, doz.	12	0 18
Crotons, doz.	18	0 24	Lycopodiums, doz.	3	0 4
Dracæna, var., doz.	12	0 30	Marguerite Daisy, doz.	6	0 9
Dracæna viridis, doz.	9	0 18	Myrtles, doz.	6	0 9
Erica various, doz.	9	0 24	Palms, in var., each	1	0 15
Euonymus, var., doz.	6	0 18	" specimens	21	0 63
Evergreens, var., doz.	4	0 18	Pelargoniums, scarlet, doz.	4	0 6
Ferns, var., doz.	4	0 18	" "	8	0 10
" small, 100	4	0 8	Solanums, doz.	6	0 12

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Arums	6	0 to 8	Lily of the Valley, 12 sprays	1	0 to 2
Asparagus, Fern, bunch	2	0 2	Marguerites, doz. bnchs.	6	0 8
Azalea, white, 12 sprays	1	0 1	Maidenhair Fern, doz.		
Bouvardias, bunch	0	4 0	bnchs.	6	0 8
Carnations, 12 blooms	2	0 3	Narci-sus, doz. bnchs.	5	0 6
Chrysanthemums, per bh.	0	6 2	Orchids, var., doz. blooms	1	6 9
" specimen			Pelargoniums, doz. bnchs.	6	0 10
" blooms, per doz.	3	0 4	Poinsettias, doz. blooms	12	0 15
Eucharis, doz.	3	0 4	Roses (indoor), doz.	2	0 4
Gardenias, doz.	2	0 3	" Red, doz.	6	0 8
Geranium, scarlet, doz.			" Tea, white, doz.	3	0 4
bnchs.	8	0 10	" Yellow, doz. (Perles)	2	0 3
Lapageria (white)	1	6 2	" Safrano (English) doz.	2	0 2
(red)	1	0 1	" Pink, doz.	5	0 6
Lilium lancifolium, white	3	0 4	Smilax, bunch	2	6 3
" pink	3	0 4	Violets	1	0 2
" longiflorum, 12 blooms	8	0 10	" Parme, bunch	5	0 6
Lilac, bunch	5	0 6			

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. $51^{\circ} 32' 40''$ N.; Long. $0^{\circ} 8' 0''$ W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
1898.	December.	Barometer at 32°, and Sea Level	Hygrometer		Direction of Wind.	Temp. of soil at 1 foot	Shade Tem. perature.		Radiation Tempera- ture.		
			Dry.	Wet.			Max.	Min.	In Sun		On Grass
		inches	deg.	deg.		deg.	deg.	deg.	deg.	deg.	inches.
Sunday	4	29.966	52.6	51.2	S.W.	47.1	57.1	50.1	68.9	44.1	0.010
Monday	5	30.064	53.9	52.3	S.	48.3	54.9	52.9	56.8	47.0	—
Tuesday	6	30.046	54.8	52.4	S.W.	49.1	56.2	53.9	64.6	49.0	0.872
Wednesday	7	29.714	45.0	44.9	N.W.	49.1	45.1	45.0	47.7	44.4	0.364
Thursday	8	30.067	42.7	41.3	W.	46.9	49.7	39.9	60.2	33.6	0.102
Friday	9	29.687	50.5	49.2	W.	46.0	51.3	39.2	64.4	29.2	—
Saturday	10	30.184	51.6	47.6	W.	45.3	54.3	41.9	64.8	34.9	—
		29.961	50.2	48.4		47.4	52.7	46.1	61.1	40.3	1.348

REMARKS.

- 4th.—Sunny till 1 P.M., then overcast, and occasionally rainy.
 5th.—Mild and fair, with occasional spots of fine rain.
 6th.—Fair morning; occasional drizzle after noon, and rain from 3.30 to 8.30 P.M.
 7th.—Steady rain from 1.30 A.M. to 1 P.M.; fair and frequently sunny after 2 P.M.; clear night.
 8th.—Sunny nearly all day, but faint in afternoon; fair night.
 9th.—Rain from 4.30 to 6 A.M., then overcast; generally sunny from 10 A.M., and bright night.
 10th.—Generally overcast, but occasional bright sun in morning.
 A warm and wet week; the minimum on the 6th higher than has occurred in December for more than forty years. The mean minimum for the past week is higher than the mean maximum for the corresponding period of an average year.—G. J. SYMONS.

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THURSDAY, DECEMBER 22, 1898.

THE JOURNAL OF HORTICULTURE can be obtained from the Office, 12, Mitre Court Chambers, Fleet St. London, post free for a Quarter, 3/9. Editorial communications must be addressed to 8, Ros Hill Rd., Wandsworth, S.W.

CAMELLIAS IN WINTER.

THESE showy flowers, which were once so popular, and the glory of our gardens—in winter—have long been under a cloud. This does not necessarily mean that their beauty and utility was formerly over-estimated; it is only one of the many examples of the modern craze for novelty which ever and anon lifts into prosperity with the swiftness of a whirlwind, some plant or flower, not always because such possess greater intrinsic merit than others cast aside, but rather in obedience to the universal dictum, "everything changeth." Individuals change, nations change, the whole universe is ever changing, ever decaying, ever springing into new life.

Fashion is a fickle goddess, and as she lightly trips along old styles and customs are from time to time brought forward, or so deftly associated with something new, that we are apt to forget the old adage, "There is nothing new under the sun." Fashion in regard to Camellias may again change; indeed there are signs of it already, for the new single varieties, and many of the old ones, too, are becoming very popular. Let us hope that family will ere long occupy a prominent place among favoured winter-flowering plants; for few flowers are more beautiful and useful when employed in the right way. Undoubtedly in bygone days, when the flowers were used in a cut state, they were not arranged in a manner calculated to show them off to advantage, for it was then often the practice to employ Camellias exclusively for floral decorations. The effect produced was bright and imposing enough, but far too stiff for the improved taste of modern times.

When the plants, by good culture, are kept in robust health, many of the flowers may be cut with 5 or 6 inches of stem with benefit, rather than injury, to the plants. Such a flower, when arranged in a vase with a few Freesias, Narcissi, Jonquils, or others of a "spikey" character, with light foliage and Grasses intermixed, contributes largely to the good effect of the combination. They look well, too, in small specimen glasses, when these are placed near vases filled with

No. 2621.—VOL. XCIX., OLD SERIES.

long-stemmed flowers, and even in dinner-table decorations they may be used with fine effect if lighter materials are associated with them.

Although Camellias are not universally popular as buttonhole flowers at the present time, there is certainly a fair demand for some varieties for that purpose, not perhaps among the *élite* of the land, but among the workers in large manufacturing towns. Flowers now play so important a part in the lives of town-dwellers that cultivators find it, in some cases, as profitable to cater for the wants of the masses as for the favoured few, because directly the cost of production can be brought low enough to secure purchasers among the toilers, the quantities which can be disposed of are at once enormously increased. When one has large healthy Camellias planted out, which are capable of producing blooms by the thousand, the cost of production is little, as only enough fire heat is needed to keep out frost, and other cultural items are simple matters of watering, feeding, and syringing, which do not entail a great amount of labour throughout the year.

Anyone having such trees will do well to give them a little extra attention, for even at present prices I consider Camellias pay fairly well. Twenty years ago the wholesale price for blooms was from 4s. to 6s. per dozen, now prices range from a shilling to half a crown. The white varieties are in the greatest demand, as during the time they are in season there are few flowers—if we except Callas—more suitable for supplying boldness to large wreaths. When associated with Lily of the Valley, Roman Hyacinths, white Primulas, *Beutzia gracilis*, or flowers of similar style, good Camellias are seen to advantage.

Next to the white varieties, pale pink or rose and good striped ones are the most in demand. Deep reds seem to be quite out of favour, and do not sell readily, but in private places they prove very useful for decorative work at Christmas time. To have Camellias in flower during November and December, the trees should be induced to make their growth early by closing the house and thoroughly syringing on bright days in spring, as soon as the flowers have all been gathered. It is a bad practice to attempt to force them into flower by applying heat and keeping the house close; when this is done the buds frequently drop in shoals, even if correct treatment has been followed in regard to watering at the root.

Let me here emphasise the fact that correct watering is perhaps the most important matter connected with Camellia growing. To conduct it successfully it is necessary to first ascertain the condition of the drainage of the border or pot. When this is in good order and roots abundant, Camellias require a great amount of water while the buds are swelling; if once they become thoroughly dry at this stage, numbers of buds will surely drop or turn brown. Sometimes the surface soil will appear quite moist, while the mass of roots near the stem are surrounded by thoroughly dry soil. This is a matter which has to be carefully watched, and if through any error it does occur, a basin ought to be formed around the stem and be kept filled with water for several hours. Whenever watering is done it must be thorough, so as to moisten every particle of soil in the pot or border. Careful observation will soon show the cultivator when to water, and with trees in good condition the matter is simple enough.

Unfortunately, however, cultivators sometimes take charge of trees which have very few roots, the soil surrounding them being sour and sodden. Such are difficult to deal with, and require to be "left severely alone" for a time, till the soil gets dry and sweet. Abundance of air given on all favourable occasions will help to accelerate this, and when water is given it ought to be several degrees warmer than the temperature of the house, just enough being applied to moisten the whole of the soil. Just before growth commences in spring a few inches of soil should be removed till some roots are found; the large ones must be notched, and fresh soil placed over them so as to cover them to a depth of 2 inches, the object being to obtain a few surface roots if possible. When this has been accomplished, the following year a trench can be taken out around each plant, the drainage re-arranged, and fresh soil added.

Treated in this way, very large trees may often be brought into perfect health again, whereas if disturbed too much in the first instance disaster instead of success is the result.

Camellias often thrive splendidly in pure fibrous loam inclined to stiffness, but they should never be placed in that alone if they have previously been grown in a mixture composed largely of peat; in such instances equal parts of peat and loam, with sharp sand added, is suitable. Plants that have been grown in loam may with safety be placed in loam again if it contain plenty of fibre; if not, fibrous peat ought to be added. When Camellias are grown in light houses it is necessary to shade in some way during the growing season. One of the many prepared shadings applied with a brush answers quite as well as providing blinds, and is more economical. After growth is completed abundance of air should be given night and day, and when the flowers are opening the house ought to be freely ventilated whenever it can be done without admitting frosty air or fog. Should it at any time be necessary to hasten the expansion of the blooms, this must be done by just warming the hot-water pipes at night and during wet or cold days, always leaving the top ventilators slightly open when the thermometer in the open air is above 35°.—H. D.

PRUNING FOR FRUIT.

Of course! Is not that what everyone does? Well no, it is certainly what all desire to do, but unless the pruner is a master of his art he will assuredly make mistakes, and it is quite possible his efforts may induce barrenness instead of fruitfulness in the trees under his care.

I send a photograph which is an example of "pruning for fruit." In 1894 the owner of this old Jargonelle Pear tree asked me to look at it, and to say if it were possible to obtain any fruit from it. It was in the autumn, and I found upon the branches a crowd of shoots sturdy, stout, and strong, for the tree was perfectly healthy; these shoots, the growth of that year, being about a yard in length. I was told that for many years the tree had put forth similar growth, which each winter was pruned in to two or three buds, only to make similar growth the following year without any fruit being had.

This barrenness was solely owing to injudicious pruning. The remedy was as simple as sure. Retain the shoots unshortened about 2 feet apart upon the whole of the branches, spur in the others to three or four buds, and the wasteful vigour of barren growth will be checked, blossom buds will appear, and in due course there will be a full crop of fruit. This advice was followed, blossom buds came more thickly each year, till in 1897 the tree was just a cloud of blossom, and it was photographed as one of the wonders of Matlock.

It will doubtless occur to many a proficient fruit grower that recourse may be had to root-pruning in such a case, as that would have checked undue vigour of growth sufficiently to induce the development of fruit buds upon the spurs, and to admit of close pruning being continued. I agree; only in this instance the tree was against the end of a building in a paved yard, which could not be disturbed.

A somewhat similar case of undue vigour and difficulties about root-pruning was that of a young Plum tree, which was planted some four years before I was consulted, in a border about 2 feet wide against a house. The roots were mainly under a wide terrace path of tar gravel concrete. The branches had made growth of wonderful vigour, which had been shortened and the lateral shoots spur-pruned each autumn, without any sign of blossom. I am unlikely to ever forget the owner's look of incredulous astonishment when I told him to take a hand saw and cut halfway through the stem near the ground.

But he "saw light" when it was explained that with such a mass of rich soil for the roots to revel in, fruit was an impossibility under the close pruning of branch growth, which was unavoidable in such a position. Well, the saw was used, and the effect was entirely satisfactory, for when I saw the tree again in the following autumn lateral growth had been so well checked that there was a delightful lot of blossom buds, and the branch growth, though less vigorous, was sufficiently so for development. The happy mean had been obtained of gradual development in conjunction with fruitfulness.

A much older tree was that clothing part of one side of a country vicarage where I was holding a garden demonstration. Healthy and barren, what could be done to induce it to bear fruit without disturbance of the narrow flower border and path? Advice to saw half through the stem led to a very useful discussion, which brought out a local case of a wall Pear tree barren and very vigorous on a farm building. A goat got at the bark and ate all it could get at, but the

strip of bark behind the stem against the wall escaped injury, kept life in the tree, which as by a miracle became as fruitful as it had been barren.—EDWARD LUCKHURST.

[We regret that the attempt to have the photograph, obligingly sent, reproduced has ended in failure. The young branches thinly disposed and left unshortened as advised, and growing out from the wall, are simply wreathed with blossom—as fine a display as could be imagined. We have seen many similar results from trees in the open, when a departure has been made from the fruit-preventing method of pruning, and the more rational system described adopted. The “saw” pruning, though it answered with trees against walls, would not be so safe for trees in the open, as the wind might “fell” them.]

COMMENTS ON APPLES.

UNDER this heading some very interesting notes appeared on page 458, and I was pleased to see Mr. Molyneux's signature supporting the practical remarks by Mr. Picker which appeared in a previous issue. It occurred to me, as it did to Mr. Molyneux, that the selection of cooking Apples was a very good one for any purpose. In a private garden, where the fruit is required only for home use, Ecklinville really is a most useful Apple, because of its freedom and constant bearing, its large size, and good cooking qualities. For market use it is, no doubt, too delicate in the skin to stand the ordeal of packing and travel. When Mr. Picker's and Mr. Raillem's opinions and experience are compared, it is easy to understand how difficult it is to condense the wealth of variety into a dozen Apples possessing all-round qualities suitable for planting anywhere.

Mr. Raillem says the best variety is omitted from Mr. Picker's list—namely, Bramley's Seedling. After the eloquent testimony in its favour, given some time since in the *Journal*, one feels somewhat nervous in expressing a contrary opinion, but nevertheless it is a fact that Bramley's is not a success everywhere. Evidently it was not so in Mr. Picker's case, nor is it so in mine, although my actual experience is limited. A friend who had grafted some standard orchard trees with this kind, invited me to see them, now four years since, and the heavy loads borne by these grafted trees and the high character given of them for keeping induced me to plead there and then for sufficient grafts to furnish one fairly large tree. These were freely granted, and they were in due time put on a healthy stock. Their progress was so remarkable in the first two years, that the tree itself became almost as large as it was previous to being headed down preparatory to grafting. Root-pruning was then resorted to in order to check the tendency to grossness, and to bring it into that free-bearing state I had seen so enviously illustrated in my friend's orchard. So far my expectations are measured only by disappointment, for there has neither been the freedom in bearing, nor does the fruit keep so well after being gathered as others report of it. To the nature of the soil only can one look for an explanation of such diverse results, both obtained by grafting. Here there is a sandy clay subsoil of some depth, in the other case an equally deep bed of gravel formed the understratum—extremes as diverse as could be well imagined—and there is in the condition of the crops quite as marked a difference. This is only another instance of an everyday rule, that where one succeeds another may fail, though the cultural attention may not vary much.

The fact that Mr. Bunyard has erased Small's Admirable from his list settles the point with Mr. Raillem. I know plenty of Apples which are popular that are not equal to Small's. Dumelow's undoubtedly is a sharp Apple in a raw state, but is a splendid juicy fruit when cooked.

On strong soil I find Stirling Castle all that can be desired; a good grower, constant and free bearer, large in size, and a beautiful cooker. In poor ground it fruits so persistently that it is quite unsuited for orchard planting because its growth is so slow and stunted. I regard Stirling Castle as one of the very best Apples I have; but this opinion would be modified if I were planting on poor or gravelly soil. Lane's Prince Albert is almost as persistent as the last named in fruiting. Mr. Raillem correctly describes it as acid; but while admitting this as a dessert Apple, few would complain of it when cooked. Perhaps Mr. Raillem objects to the addition of sugar in the use of cooked fruit. If this is so, it is easy to understand his objection to varieties possessing much acidity.—W. S. Wills.

APPLE INVINCIBLE.

THE numerous practical observations that are now being made in the pages of the *Journal of Horticulture*, relative to culinary Apples, renders the reproduction of a new variety more than ordinarily appropriate. It cannot be said that Invincible, of which the woodcut (fig. 80)

is an excellent representation, is superior in every respect to several of those that have been enumerated. It is, however, a very handsome kitchen Apple, and is said to be an excellent cropper—but, of course, only time can prove whether or not it can oust either of those in Mr. Picker's selection on page 433. The variety was exhibited at the Drill Hall on October 11th, 1893, by Mr. D. Bolafy, Green Norton, Towcester, when the Fruit Committee of the Royal Horticultural Society recommended that it have an award of merit. The fruits are of large size, $3\frac{1}{2}$ inches high, and as much in diameter, slightly angular, and rather higher on one side than the other. The skin is greenish yellow on the shaded side, covered with russet dots and flushed with crimson, with short, broken streaks of brighter crimson on the side exposed to the sun. The eye is deeply inserted in a wide cavity, while the very short stalk is imbedded in the fruit. It is an Apple of promise, and if this be fulfilled, may become popular.

APPLES IN IRELAND.

MR. BARDNEY'S interesting article on page 434 refreshes one by its enthusiastic tone. How the editorial eye must have beamed on those brilliant Bramley's from Ireland. Is it that our poorer people—the great majority—are yet to revel in dumplings galore, as yet an

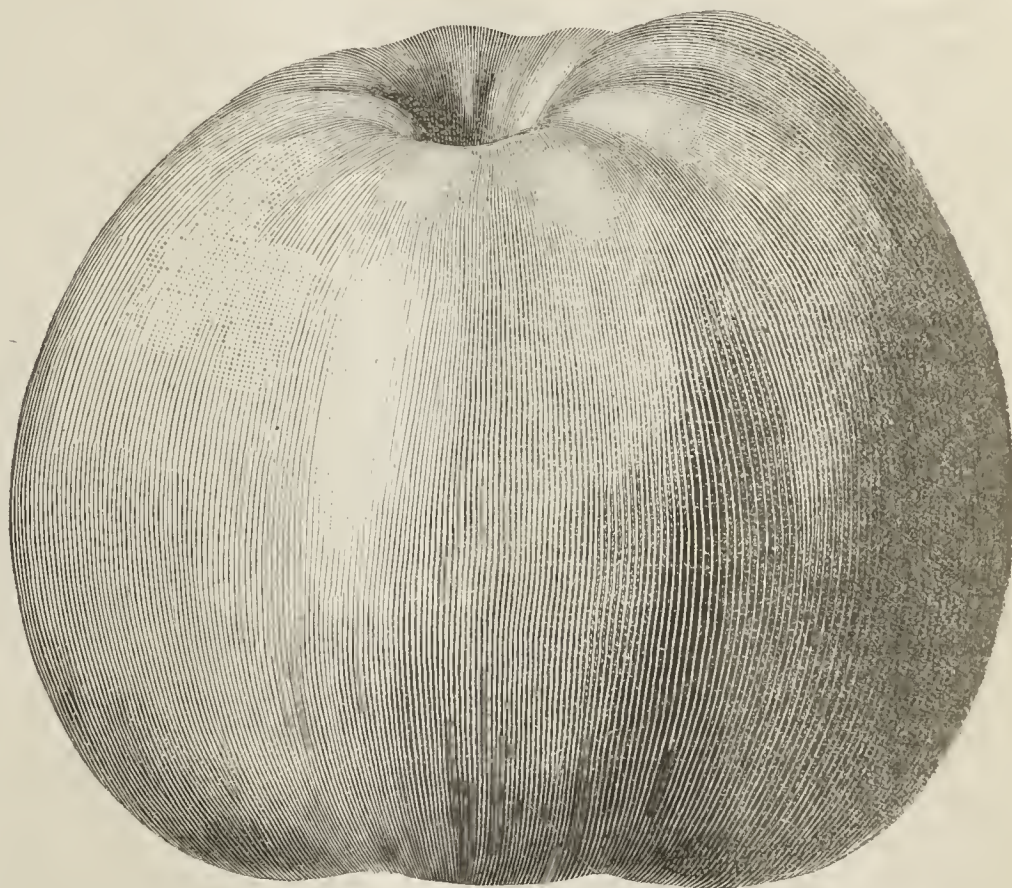


FIG. 80.—APPLE INVINCIBLE.

unknown luxury in their menu? Would that it were so. Then, indeed, would Bramley's be blessed above the all-too-prominent Apple here—the ubiquitous *Pomme de terre*. Why you have only to Bramleyise the Green Isle and—heigh, presto!—it is the garden of the Hesperides.

Seriously, there has been so much disappointment among all sorts and conditions of would-be Apple growers on this side of the Channel that Mr. Bardney's intelligent notes will, I fear, receive not a tithe of the attention they deserve. Intelligent? Yes, “saving his presence,” lucid and to the point—in fact, so much so that one fears the chief point may be overlooked, and the chief point is, of course, the Bramley's. What says my neighbour, to whom the article is shown? “Well,” he “does not think Mr. Bardney is ‘humbugging’ us with his Bramley's, but” (and here his reply is in a parable) “there is gold in Wicklow, and that gold is, like the Bramley's, of the finest kind, but—and to save a Klondike stampede—it is very scarce.”

As one of the few Englishmen who can realise what Ireland is “really like,” the Irish notes upon this subject have begotten many thoughts, hence the delay in this scanty expression of them. I must now repeat what has been often, but not lastly, advanced—that Ireland is not an Apple country. One sees not only “old orchards worn out,” but young orchards that never had any wear, and never will, supposing that the old ones did, which is questionable. I saw an orchard planted with some 500 trees about fourteen years ago, and properly planted on a well chosen site, but alas! for the sequel. The dead and dying remains were recently cleared off to make room for something that would pay. The sorts? Well, nearly every popular kind you could mention, save Bramley's; and that, I take it, is the *cruz* of the question.

These remarks, be it understood, are *apropos* of orchard culture

only. That good Apples are produced in good gardens goes without saying; but, be it understood also, under what most cannot but regard as unfavourable climatic conditions; hence there is much of delving and root-pruning in spite of the conserved warmth afforded by their walled-in surroundings—advantages which are extraneous to our small farmers. As for the cottagers, cottage gardening on parallel lines to the humble homes of England is conspicuous by its absence.

But, again to the point, we have, thanks to your facile correspondent, seen what has been done in Roscommon, a not unduly favoured locality, and what has been done there can, we may reasonably suppose, be done elsewhere in the Sister Isle. I trust it may be so, and more also, until, in fact, every ragged gossoon who now views the imported forbidden fruit through the shop windows of the Milesian metropolis may share in the feast doubtless enjoyed by the young lions of the Editorial *menage*, and shout Bravo (Mr.) Bardney and Bramley's.—K., *Dublin*.

CHEMISTRY IN THE GARDEN.

(Continued from page 392.)

FARMYARD manure, being composed chiefly of vegetable matter and the waste material voided by the animal, is an organic substance, and, like nearly all organic bodies, it will soon decay if the conditions surrounding it are favourable. Practice, in her slow but sure way, has taught gardeners the advisability of using farmyard refuse in a more or less decomposed state. Science then steps in and tells us that, fungi excepted, organic substances are of no direct value to plants as food; the organic must become inorganic (earthy) before crops make use of them, hence the necessity of decayed manure in gardens.

It is a well-known fact that when farmyard manure is thrown into a heap the latter becomes very hot. The heat is developed owing to the chemical changes which take place, due to the action of myriads of minute living organisms called bacteria, which cause fermentation. During the fermentation the bacteria change highly organised substances like albuminoids and urea into simpler compounds like water, carbonic acid gas, and ammonia.

We have often noticed how much better Mushroom beds yield when put up during very cold weather, than do those made in months like August and September. We know that the Mushroom fungus lives, grows, and develops on the organic constituents of manure—in fact, we must feed Mushrooms just the same as we should feed cattle. They must have organic substances to live upon, substances which have lived and not decayed far enough to have become earthy. When a heap of manure gets very hot, like it would last summer and early autumn, much of its organic nature will be destroyed, and consequently there will be little left for Mushrooms to feed upon. On the other hand, if we prepare manure for Mushroom beds in cold weather, we get sufficient heat to sweeten it without destroying or changing those compounds, which are essential to the life and development of this fungus.

When a heap of farmyard manure decays under certain conditions acids are formed. Examples of these are carbonic acid, ulmic and humic acid. In an early article we pointed out how readily acids combined with bases to form salts. During the decomposition of urea and the albuminoids ammonia is formed, and ammonia is a base.

When the straw decays potash and lime are liberated, and these two bodies are also bases; and all or either of these bases may unite with the acids to form carbonates, ulmates, and humates of ammonia, potash, or lime.

These changes must not be looked upon as actually taking place as represented here because, although we may find free ammonia in a manure heap, we should never expect to find either potash or lime. The changes take place in so intricate a manner as to be almost indescribable, and it is not our intention to describe changes which become bewildering except to chemists.

The following very pertinent remark once appeared in the *Journal of Horticulture*:—"If a heap of manure is so wet, and remains till dark coloured liquid runs from it, you may be sure that the very essence of the manure is gone; its very soul and spirit have departed, and though the body remains still, it is a dead one." This passage is indeed good, and should find a place in the memory of all gardeners.

The dark coloured liquid we find running away from the exposed manure heaps is water containing ulmates and humates of ammonia, potash, and lime. Woolf analysed a sample of this dark liquid and found 100 lbs. of it contained 98 lbs. $3\frac{1}{2}$ ozs. of water, $10\frac{1}{2}$ ozs. of organic matter, and 1 lb. 2 ozs. of ash. The organic matter contained 3 ozs. of ammonia, and the ash $7\frac{1}{2}$ ozs. of potash, $\frac{1}{6}$ oz. of phosphoric acid, $\frac{1}{2}$ oz. of lime, and $\frac{2}{3}$ oz. of magnesia.

If a manure heap is allowed to get too hot and dry, a great deal of the ammonia will be driven off into the atmosphere. Not only is ammonia given off, but also phosphoreted hydrogen, and we thereby lose nitrogen and phosphoric acid; both valuable plant foods.—W. DYKE.

(To be continued.)



ARRANGING ORCHIDS.

If in staging Orchids we had only the effect to study, the operation, whether in the flowering house or the growing quarters, would be far simpler than it is, but, especially in the latter, the health of the plants is more to be considered than their appearance. A frequent mistake made in staging small plants in low span-roofed houses is placing the back rows much higher than those nearest the path. In this way a better appearance is the only advantage, and a worse plan can hardly be conceived for the plants themselves. Culturally considered, the plants nearest the paths should be higher than those at the back, as by this means all get an equal share of light.

In this class of house the operation of watering plants when arranged as described is difficult, and in order to reach those at the back the operator will need to stand upon something, and even a pair of steps may be needed. But it is worth being at this trouble on account of the plants. A medium plan is often followed—that is, to stage the plants at a level, and though this greatly facilitates watering and examination, it is obvious that those plants nearest the edge do not get so much light as those at the back, where they are nearer the glass. Where small and large plants have to be grown on the same stage the latter may be thinly disposed near the edge, thus doing away with the difficulty to a certain extent, because by their height they are brought nearer the glass.

When there is width enough in the house for a central as well as side stages the work is greatly simplified, as both dwarf and taller specimens can be given the position they like best. For instance, take the cool house. Here are grown the usual class of small *Odontoglossums* and *Oncidiums*, *Masdevallias*, *Pleurothallis*, and the like. These, of course, will be accommodated on the narrow side stage, while plants of a larger habit, such as *Cymbidiums* of the *Lowianum* and *giganteum* class, and some of the larger growing *Lycastes*, *Oncidiums*, and cool *Epidendrums*, will find suitable quarters on the central stage.

In all, or nearly all, houses there are different parts that are shadier than others; while, again, in the warm structures there are places where the hot-water pipes converge and cause a drier atmosphere. Near the doors of cool houses, and of warmer ones where these open to the entrance air, will be found places much cooler than the body of the house. All these points must be taken into consideration when arranging the plants, and all those species or genera that prefer such temperatures or atmosphere must be there placed. In this connection a few comparisons may be made, but they will naturally differ in every collection, and can only be decided on the spot.

Two well known kinds of a very similar habit are *Vanda suavis* and *Angraecum sesquipedale*. Both like heat, but the former may be given a much shadier house than the latter, while the *Angraecums* may be well grown in a far drier position than the *Vanda*. *Odontoglossum grande* and *Laelia anceps* both like a temperature slightly above that of the cool house, but they cannot be bracketed for treatment, the *Odontoglossum* being found in deep shady ravines near Guatemala, and therefore liking a moist shady position, while the Mexican plant is fond of bright sunshine.

Many such instances may be given, but, as mentioned above, they must vary according to the circumstances of the case, so no good purpose would be served by multiplying examples. Respecting the method of arranging Orchids when in flower, there is room for much improvement. Orchid exhibits at our provincial shows are in most cases a crowded bank of flowers, and in too many cases this is imitated at home by gardeners. A more natural and pleasing mode, where the convenience exists, is to place the Orchids as they flower in a permanent or planted out fernery, the pretty, soft greenery of the Fern setting off the Orchid flowers to advantage, and the semi-moist condition of such house is better than the dry flowering house of many establishments.—H. R. R.

MEN AND MEDALS.

I AM a medallist—a Victoria medallist. Call me, after a trusty servant of the revered and beloved monarch whose name the Jubilee horticultural medal bears, John Brown. My name is not really John, nor is it Brown, but that by the way. John Brown is a type, and a right good type too, faithful and loyal to his sovereign and his friends. I am, then, John Brown, V.M.H. Some of my correspondents "Mr." me, others give me the seductive "Esq." I can truthfully declare that, whatever my faults may be, I am not a snob, therefore I think no worse of the person who makes me plain "Mr." and no better of the one who gives me the other title. If neither term was used I should eat, work, and sleep with an equally tranquil mind, arguing that the littlenesses of the world are abundant enough without my adding to them.

But—and believe me it is no little but—when I receive a letter from that eminent horticulturist, Mr. William Smith (sometimes known as William Smith, Esq.), who won't let my poor little medal be seen outside the envelope, while he makes his own very prominent inside it, I am fain to rub my eyes a little. I perform the same operation, in the same spirit of bewilderment, when I see a fluent article in, let us say, the "Gardening Mail," which makes a reference to "my friend Mr. John Brown," and signed W. Smith, V.M.H. I ask myself this, Which would a man who had earned a university degree be the more likely to do—give a friend who had won a similar distinction the M.A., and withhold it from himself, or dignify himself, and (by omission) belittle the other by refusing the courtesy of acknowledging him as an equal? There can only be one answer to this question, and it is an awkward one for W. Smith, V.M.H.

Our other medal friend, Mr. T. Jones, is seen rather more frequently writing in the "Mail" than Mr. Smith, V.M.H. He is not exactly a writer by profession, but he is one of the clever men who know how to handle a pen, and if he makes it pay it is not to his discredit at all. Only, he always pops on V.M.H. Now, one of the most important conditions, or perhaps I ought to say points of honour, in connection with the medal was that it was not to be employed for purposes of advertisement. An interesting question arises. If a writer puts V.M.H. at the foot of his articles, is he advertising or not? I do not say that he is. I do not make any assertion at all. I merely plead, like Rosa Dartle, for information. Employing the phrase of that interesting lady, I ask: "Won't somebody please tell me?" If Mr. Jones is not advertising, why, then, I should like to be informed what sin a tradesman is committing in putting V.M.H. pretty prominently in his catalogue. Up to the present—

The difference I fail to see

'Twixt tweedledum and tweedledee.

—JOHN BROWN!!!

THE HORTICULTURAL CLUB.

THE usual monthly dinner and conversazione took place at the rooms of the Club on the 13th inst., and there was a good attendance of members. Mr. Harry J. Veitch (Vice-Chairman of the Club) presided, and there were present the Rev. W. Wilks, Messrs. Martin R. Smith, P. Crowley, Selfe Leonard, James H. Veitch, Gosling Salmon, Geo. Monro, Peter Kay, J. Tillman, Geo. Bunyard, Shoults, Bassett, and the Secretary.

The discussion was on size in flowers, fruits, and vegetables, and was opened by an interesting and amusing paper by the Rev. W. Wilks, who deprecated the vulgar taste for large things in the strongest terms. He alluded to the absurd size to which Chrysanthemums are grown, and asked, what lady would use them for the purpose of decoration? It was the same with fruits. The huge Gros Colman in Grapes had almost superseded all other kinds in the market. And so in vegetables; immense Onions were grown, from which nearly all true Onion flavour had been eliminated; and Brussels Sprouts, like young Cabbages, had superseded the delicate flavour of those of former days. He hoped that there were signs of returning common sense and clearer perception of beauty, and said that probably the worst offenders were provincial societies, with whom size was everything, and the man who could produce the biggest Cucumber, Vegetable Marrow, or Onion generally came off victorious.

Mr. Martin R. Smith said that sometimes the size of *Scuvenir de Malmaison* Carnations was adduced as a proof of this vulgarity, but the fact was that this race was entirely distinct from the ordinary type of Carnation, of which its foliage was a clear proof; its origin was unknown, but of its distinctness there could be no doubt. Mr. Geo. Bunyard, as a fruit grower, said the same thing held true with regard to fruits. Big Gooseberries, whose only recommendation was their size, had in many gardens superseded the fine flavoured sorts, and such fine flavoured varieties as Warrington, Ironmonger, White Champagne, Venus, Cheshire Lass, Yellow Golden Ball, and others had to give way to huge tasteless things. Mr. George Monro stated that probably the British public was responsible for a good deal of this, and while big things sold well, he supposed the growers would cater for it. Many other members took part in the discussion, which was of a very interesting character, and a vote of thanks was cordially given to Mr. Wilks for his address.

SCOTTISH GRAPE GROWING.

THE glowing reports of Mr. Lunt's success in Grape culture do not embrace all that he has achieved. His management in recuperating old Vines has been attended by signal success. Some of us who have seen the grand examples of Mrs. Pince Grapes grown at Keir by Mr. Lunt can give testimony to their excellence. Bunches from 3 lbs. to 6 lbs., handsomely finished in every respect, were no mean objects, and were equal in credit to the fine examples which have been cut from the new vineries.

In some of the establishments where Grapes have been cultivated in the north for marketing, evidence of great skill has been exemplified. Clovenfords, of course, holds an exalted position, as many of us can bear witness to, without any detraction in weight and quality of Grapes for more than thirty years, and some visitors who have been to that great establishment during the past season state that all-round excellent management was never more in evidence than during this year.

The name which has been raised for high-class cropping of Vines, and the excellent results on the exhibition tables by Messrs. D. & W.

Buchanan at Forth Vineyard, is maintained in very high order. It is one thing to get fine bunches by moderate cropping, but to have, year by year, such enormous crops as are produced by the cultivators indicated, testify that skill is not lacking.

Another exhibitor and grower for market has been for nearly twenty years in the van of success, not only with excellent exhibition bunches, but such crops as we have seldom seen equalled. This Grape-growing was by Mr. William Murray at Parkhall, Stirlingshire. In the earlier years of this cultivator friends and neighbours thought that



FIG. 81.—MR. WM. MURRAY.

the success, so pronounced, would soon be at end, but for the sixteen years we have visited the establishment, the heavy crops and excellence of the fruit have in no way exhibited any signs of retrogression, but believe the past season has been one of the best which Mr. Murray has experienced in the production of Grapes. The fine exhibits for many years past at the Waverley Market, Edinburgh, and elsewhere, especially in the class of four bunches, gave evidence of what is produced at Parkhall. Gros Colman, cut from Vines year by year bearing twenty to twenty-five bunches, averaging from 4 to 5 lbs., of such excellent finish, is something worth recording. Alicantes, Lady Downe's, Gros Maroc, and others, are just as fine examples as the first-named; indeed they are unique for size of bunch and fine colour.

Large green leathery foliage is always a special feature of the Vines. In 1600 feet run of fine houses, showing such a profusion of good Grapes, is a sight which is not easily effaced from one's memory. At any time during the autumn many hundred bunches of exhibition Grapes can be taken from these Vines without being missed, the crops being so enormous. Much is done by the removal of old rods and filling their place with young Vines. Houses planted one season may be seen the following year filled throughout with fine Grapes, and no supernumeraries in use as auxiliaries.

The firm (now Messrs. W. Murray & Son) also make a speciality of Tomato growing, and the long ranges of low houses, at the time of our latest visit in October, were filled with thousands of large brilliant fruits of Parkhall Favourite. Rhubarb forcing and Strawberry growing are also among the specialities, and done as well as may be seen anywhere. The portrait (fig. 81) represents the founder and present head of this up-to-date establishment.—M. T., Curron, N.B.

—METROPOLITAN PUBLIC GARDENS ASSOCIATION.—At a recent meeting the progress was reported with regard to the laying-out of the Paragon, New Kent Road, and Albion Square, Dalston. It was agreed to plant trees in Upper Street and Hamerford Street, Islington, and to offer trees for certain sites in the Strand and the City. It was resolved to offer seats for the churchyard of St. Andrew Undershaft, to memorialise the Metropolitan vestries and district boards respecting tree-planting in London, to urge the Hornsey District Council to preserve the Queen's Wood in its natural state, to continue negotiations with respect to the proposed opening of Finsbury Circus, Christ Church Churchyard, Blackfriars, and other apices.



MRS. C. BOWN.

THIS new Australian variety will undoubtedly take a leading place in all collections where plants are grown for decorative purposes. It will form an ideal variety for market growers, possessing all the qualities so requisite for their purpose. In colour it is a waxy white, growing naturally as a bush plant about 4 feet high, with a stiff erect habit. It is remarkably free flowering, for I have had plants this season growing in 7-inch pots carrying about three dozen excellent flowers. When allowed to produce sprays every bud develops, and the keeping properties leave nothing to be desired.—J. B. R.

TOO-MUCH-ALIKE VARIETIES.

MAY I be allowed to briefly answer Mr. W. J. Godfrey's question on page 454? I feel duty bound to adopt the N.C.S. catalogue as a guide to classification when officiating at affiliated societies, but when at a non-affiliated exhibition I use my own discretion. Whether the catalogue is in accordance with my views or not is out of the question at the moment. At the excellent exhibition in the Winter Gardens, Bournemouth, last month, my colleague and myself passed the four bracketed varieties—viz., C. H. Curtis, Major Bonnaillon, also Princess of Wales and Mrs. Heales—on the grounds stated in my notes on page 440, they being shown, in our opinion, fairly distinct. I could mention other instances, but this one is sufficient for the purpose.

I am aware that catalogues soon get out of date in these progressive times, and need constant revision. As to the correct description in any catalogue, scores of instances could be quoted as to descriptive character, which read ridiculously in after experience. If the true character of all newly introduced varieties could be at first determined there would be no need of the Classification Committee.

It would serve no good purpose to enter into a discussion as to the infallibility of any book or body. I would rather adopt the tone of Mr. E. Harland's note on the same page, and consider the question on a broader basis, as to whether it is wise to put the veto on the exhibitor or leave it to the discretion of the judges. Mr. Harland's remarks are perfectly to the point, and it would be as well, and to the interest of all, if a clear understanding could be arrived at for guidance in the future.—C. ORCHARD, *Harbour Gardens, Bembridge, I. W.*

TIMELY TOPICS.

Now that all the bustle and excitement which have been in evidence in connection at the many Chrysanthemum exhibitions throughout the length and breadth of the United Kingdom have once more subsided into the "daily round and common task," cultivators of the autumn queen will be turning their thoughts towards, and laying their plans for, future contests. The season has come when a commencement must once more be made by the insertion of cuttings. As your correspondent "E. D. S." gave a very useful and instructive article on how best to produce good cuttings, as well as how to propagate them, in your issue of December 8th, I will not trespass upon your space by saying anything regarding this phase of "Mum" culture, as it would simply be a reiteration.

Putting in the cuttings is, as your correspondent says, a "most interesting phase of their management," still, if the laws of grammar will permit, I think there is a phase more interesting still, and that is what is termed timing the plants. Now, most of us succeed fairly well in propagating our stock, but I make bold to say it is only a comparatively few who can be said to have mastered the timing process. In the former case a definite rule can be laid down, which if adopted will result in success; but not so in the latter. In this each cultivator must in a very great measure map out his own course. There are so many side issues that have to be taken into consideration, that we cannot lay down any hard and fast lines.

In some of the catalogues issued by trade growers in the south, laudable endeavours have been made to give dates for pinching which are best calculated to bring about satisfactory results with the different varieties. But I have no hesitation in saying that for growers in the north and Scotland to follow these gratuitous instructions would be wildest folly. So different is our climate from that of the south, that even if certain deductions are made, still the best results would not be attained. True, in some instances these dates may prove to a certain extent a guide, especially with such sorts as are new to the cultivator.

There are, however, other matters to be taken into consideration,

such as the date of propagation, with the strength and vigour of the plant. In Scotland, as a rule, we propagate earlier than southern growers do, and this, as well as the difference of climate, has to be taken into account in the matter of timing. Then again, a weak and a strong vigorous plant of the same variety require a variation in treatment, so as to produce the most satisfactory results. I have in my mind now, as I am writing, two gardens within half a mile of each other where during the past season the plants were being pinched, with a view to timing the flowers on exactly the same dates, but the results were not identical. One man's treatment in the cultivation differed materially from that of the other, consequently the final results varied considerably.

No, this matter of timing is not one which we can learn from our neighbour, but one which we must learn by personal experience if we ever wish to become adepts in the art. I was speaking a few days ago to one of the best growers we have in the north, and he told me he had been asked by a grower 150 miles further north regarding the timing of that fine white Madame Carnot. He gave him his treatment in detail, which was rigorously carried out, but resulted in complete failure, not a single presentable bloom being produced. It is a wide and interesting subject—more interesting even than "E. D. S.'s" "most interesting" one of propagation—this phase of timing, and one which is not sufficiently understood by the great majority of Chrysanthemum growers.

At this season of the year, when there is plenty of time on hand, perhaps some of our experienced growers would give us a few hints, as I think it is a subject the discussion of which would prove mutually beneficial.—ALBYN.

SPECIMEN PLANTS.

It is safe to say that there is an obvious decline in the number as well as the quality of the plants exhibited throughout the country. True in some few instances I have noted an improvement, but that was where they have been so poorly represented in the past. For instance, in Edinburgh the plants staged this year were distinctly superior to any previously seen, while at Brighton I understand specimen plants were a great feature. I am not surprised to hear that, because for years this Society has produced the finest pyramid and standard-trained specimen Chrysanthemums.

A great decline was observed at the late exhibition of the N.C.S., where Mr. Donald's marvels of cultural skill were much missed. At Southampton, Portsmouth, Winchester, and Liverpool the huge specimens so often seen a few years since are now no more. Longer than I can remember, the shows held at Liverpool have been famous for this section. This year they were very poor, with the exception of one entry of Pompons. I am not a keen advocate for these unwieldy specimens; they have little to recommend them but a tribute to patience and untiring skill in the manipulation of the shoots and branches in getting them into form to bear the 200 blooms frequently seen on thoroughly representative specimens. As conservatory plants they may be useful in some few instances where necessary convenience exists.

Plants suitable for grouping, or those made dwarf by cutting down encouraged to retain their foliage perfectly and to carry from four to twelve blooms of high-class merit, are far preferable. Yearly at Hull such plants are to be seen, and in a few other shows. With the public this method of culture is fast finding favour, as they see in them usefulness without unwieldiness.

There are, however, those persons to be found who still enjoy the pastime of training these numerous shoots, and perhaps those who purpose cultivating this type of plant for the first time, and for their assistance I append a list of varieties in the two sections—Japanese and incurved—most suitable for the purpose. As the plants must have a long season of growth to enable them to reach the necessary dimensions, an early start is a necessity. No time should be lost in inserting the cuttings, which must be stout and of a healthy appearance, likely to grow freely, and not produce premature flower buds. One cutting only ought to be placed in a small pot, so that when the time arrives for a shift into larger sizes, the work can be done without the slightest check being given to the plants, as is the case when several cuttings are rooted in one pot.

TWO DOZEN JAPANESE.—Madame Bertier Rendatler, orange shaded with yellow and red; Charles Shrimpton, bright crimson; Eva Knowles, bright carmine red, reverse golden; John Shrimpton, crimson scarlet; Madame M. Ricoud, bright rosy pink; Niveus, white; Phoebus, yellow; President Borel, rosy magenta; Sunflower, rich golden yellow; Vivian Morel, silky mauve; Col. W. B. Smith, light terra-cotta; Mrs. E. S. Trafford, rosy buff; Pride of Madford, rich rosy amaranth; Wm. Tricker, rich light pink; Source d'Or, orange, gold shaded; Elaine, pure white; La Triomphante, white suffused purple rose; Val d'Andorre, orange red; Gloire du Rocher, bright amber; Emily Silsbury, milky white; Madame Carnot, white; Lady Randolph, claret crimson; Madame Philippe Rivoire, creamy white; and W. H. Lincoln, bright yellow.

TWELVE INCURVED.—Mrs. G. Rundle, white; Mrs. Dixon, bright yellow; George Glenny, primrose; Lord Wolseley, bronzy red; Prince Alfred, rosy carmine shaded purple; Venus, lilac suffused pink; Nil Desperandum, dark orange red; John Salter, cinnamon red; Jardin des Plantes, deep golden yellow; Baron Hirsch, orange cinnamon; Barbara, orange amber; and C. H. Curtis, deep yellow.

FOR STANDARDS.—Mrs. G. Rundle, Miss Dixon, G. Glenny, Roseum superbum, Mille. M. Ricoud, and Peter the Great.—E. MOLYNEUX.

NATIONAL CHRYSANTHEMUM SOCIETY.

A MEETING of the Executive Committee was held on Monday, Mr. P. Waterer in the chair. Most of the business was of a purely formal nature. Some discussion arose on the question of the publication of a new Catalogue. In the meantime the report of the Classification Committee will appear, as was the case last year, in the new schedule.

SHEFFIELD CHRYSANTHEMUM SOCIETY.

THE last meeting of the session was held on Wednesday evening, the 14th inst., and the first general meeting of the members in the Society's new rooms at the Westminster Hotel, High Street. The attendance was very good, and taxed the sitting capacity of the meeting room. The members' exhibits were as usual for the December meetings. Of Chrysanthemums some excellent blooms were staged. The prizewinners were, for the professional class, Mr. C. Scott first and Mr. William Collier second; for the amateurs' class, Dr. Barham first and Mr. W. Wellgoose second. Prizes were also won by cottagers.

The entertainment for the evening, after the official business had been transacted, was a lantern exhibition, kindly given by Messrs. Nicholson & Carr, who, in a series of admirable pictures, took the audience a trip from London to Greece. In addition to the above they displayed a number of pictures of statuary and groups of cut flowers. The latter were remarkably well arranged and displayed, and were greatly appreciated. Several excellent groups of Narcissi blooms came in for special approbation. Special photographs of the officials at the late show in November were presented to Mesdames M. Donaldson and C. Johnson as a slight acknowledgment of the services these ladies rendered to the Society by taking charge of the flower show held during the exhibition, for the benefit of the benevolent fund in connection with the Society. The second portion of the evening's entertainment was musical, when Messrs. W. Housley, W. Dale Butler, J. Else, and others, rendered the vocal portion. A vote of thanks to Messrs. Nicholson and Carr for their excellent entertainment, the gentlemen who represented the songsters, and to the Chairman, Mr. John Haigh, concluded one of the popular and most pleasant evenings held by the Society during the year.—J. H. S.

CHRYSANTHEMUMS IN ITALY.

MR. H. BRISCOE-IRONSIDE, the well-known English amateur, who has been resident in Italy for some time, sends a few notes concerning the recent shows in that country, and says that very great progress and enthusiasm have been displayed at the shows, of which there have been three. One has been held at Turin, another at Pallanza, and the third was that of the Italian N.C.S., which was held at Milan from the 10th to the 15th November. It took place in the Fine Art Gallery, and a more suitable building for such a show it would be difficult to find. The available floor space is about equal to that of the Royal Aquarium at Westminster, and it was well filled, the majority of exhibits being pot plants. Mr. Briscoe-Ironside had a room to himself, which he filled with an exhibit comprising examples of every section of the Chrysanthemum, and also with plants. For this he was awarded a gold medal.

The Floral Committee held a meeting, but awarded only two first-class certificates. These went to Mons. Ernest Calvat for the following—Princesse Bassarala de Brancovan, a large Japanese of the C. B. Hayward type; and to Lesdiguirex, also a Japanese, of large size, pale orange streaked crimson.

There were eighty-four competitors in the forty classes, and after the proceedings of the first day were concluded, a banquet was held at which seventy guests were present, including a delegate from the newly formed Swiss N.C.S.

At the Turin exhibition the King and Queen of Italy were present, and the show was a great success. Pot plants predominated, most of them, out of several thousands, being only 2 feet high. The principal prizewinners were Mr. Sealarandis, gardener to the King; Messrs. Radaelli, M. Brocchi, and Mr. Briscoe-Ironside.

The show at Pallanza came between the two preceding, and was on a somewhat smaller scale. Here Mr. Ironside made an imposing display of a group 12 yards long by 6 yards wide. For this he was awarded the silver medal and a grand diploma of honour presented by the Minister of Agriculture. We congratulate our old friend on his successes, and hope the movement will still further extend.—C. H. P.



WEATHER IN LONDON.—For the most part the weather during the past week has been that of spring rather than of Christmas time. Very little rain has fallen, and the air has frequently been quite warm with bright sunshine. Sunday and Monday were both light and dull at intervals. On Tuesday the weather was clear and cold, with slight frost at night, which changed to rain at midnight. Wednesday was dull and close.

— **WEATHER IN THE NORTH.**—Up to Tuesday morning, when there were 5° of frost, there was a continuation of the former unsettled weather. The 15th was a beautiful day, and the forenoon of Saturday fine, but the latter part was very wet. Sunday was bright and cold. Rain has been frequent, especially during the night, throughout the week.—B. D., *S. Perthshire*.

— **DEATH OF MR. W. PRAGNELL.**—It is with much regret that we record the recent demise of Mr. W. Pragnell, who had been gardener at Sherborne Castle, Dorset, for upwards of forty years. He had visited Sherborne in the early part of the day, and on reaching home suddenly fell forward and expired. The deceased will be remembered as a prominent exhibitor and judge. Mr. Pragnell leaves a widow, four sons, and two daughters.

— **RETIREMENT OF MR. J. LAZENBY.**—We learn from the "Yorkshire Herald" that the Ancient Society of York Florists is about to lose the services of their Secretary, Mr. J. Lazenby, who has held that office for more than twenty years, and previous to accepting which he had been a member for several years. The Society two decades ago was very different from what it is now. Its membership has shown an enormous increase, the Chrysanthemum Show has become one of the first exhibitions of its kind in the kingdom, and the minor shows, to which admission is free, and of which four are held during the summer, have grown to many times their size of a quarter of a century back, and are a great attraction to many of the citizens. Necessarily with the growth of the Society and its undertakings the work connected with it has correspondingly increased, and Mr. Lazenby now feels constrained to relinquish his position. The Society is taking steps for the appointment of a successor, but meanwhile Mr. Lazenby's retirement has called forth a desire that the occasion should be marked by the presentation of a testimonial from the members and friends of the Society, of whom there are many that have derived much pleasure from the Society's floral displays. Mr. B. B. Pannett is Secretary to the Testimonial Committee.

— **EXPERIENCES OF JUDGES.**—Were I to relate all I know regarding the work of adjudicating at horticultural exhibitions some peculiar experiences could be brought to light. It is not my purpose merely to give evidence of what is known to me, but rather on behalf of some who willingly give their services as judges. It is fair that every society should pay travelling and other expenses incurred. Some do not consider it their duty to attend to this. I have now and again (certainly not often) had to pay my own expenses. One of the cases, strong in point, was the engaging of a well-known gardener to go some seventy miles, and not a copper was offered for his journey or for refreshment. It may be considered by such societies that the "honour" was ample remuneration. I once walked across country about seven miles during a hot July sun to a show in a western county of England, where plenty of work for three hours fell to my lot, and at the end an elderly gentleman in the garb of a Quaker told me that the honour of engaging in such work was a privilege which covered more than money could. I did not offer a word to raise any dispute in this assertion. It certainly was profitable in one way, as I acted along with two experts well known, and being then very young in years received some valuable tuition in judging among large collections of florists' flowers. I had studied the points of these by Glenny, but practice in such work was really of much service. The few societies (I should say very few) who do not pay judges their railway fares should remember that gardeners do not form a wealthy section of the community.—AN OLD HAND. [Money lovers, in Quaker garb or otherwise, are apt to preach the "honour" doctrine, but they are not themselves famed for giving much of their professional skill for nothing, and being out of pocket in the dispensation.]

— RHODODENDRONS IN DECEMBER.—A correspondent writes:—"Miss Browning-Hall of Ravenswood, West Wickham, Kent, has crimson Rhododendrons in full bloom outdoors in her garden to-day (December 20th, 1898)."

— GARDENING APPOINTMENT.—Mr. F. C. Walton, for nearly three years foreman of the glass department, Bodorgan, Anglesea, N. Wales, has been appointed head gardener to Ernest de la Rue, Esq., Lower Harc Park, Newmarket, Cambs.

— THE HESSLE GARDENERS' SOCIETY.—A meeting of the above Society was held in the Parish Schoolroom, Hessle, on Tuesday, the 13th inst., Mr. F. Mason, Woodleigh, Hessle, in the chair, when Mr. D. Toyne, Hull, read a paper on "Hardy Flowers." The essayist dealt chiefly with plants that are specially adapted to spring gardening, which was listened to eagerly by the members present. The subsequent discussion was entered into with much zest and enthusiasm.—J. T. B.

— OXALIS CRENATA.—I was glad to see the vegetable Oxalis mentioned on page 464. When I was a boy there were two kinds grown, but I do not know the specific name of either. One was then said to come to maturity quicker than the other. At all events, I am quite certain that the earlier variety would ripen in a sunny place in the neighbourhood of Bristol, and I should be obliged if "X. L. C. R." would kindly state where tubers for planting may be obtained. It is not, I think, so much the taste of the British epicure respecting the use of uncommon vegetables as the unwillingness of many British cooks to prepare them for the table. I am now favoured with the help of a cook as a fellow servant who takes an interest in making the best of whatever I can grow in providing appetising dishes.—D. W.

— GARDEN REFUSE AS MANURE.—I fear your correspondent, "A Working Student," page 458, does not understand the "wit sarcastic." In stating "that according to chemical analysis and scientific bases, such material as garden refuse is deficient in phosphates and potash," I was but giving point to the fact that scientific teaching and practical gardening do not harmonise. I had thought I made so much clear in referring to the remarkable results obtained in the case mentioned from such refuse as manure. However, it is not all of us who can read between the lines. Oddly enough, such material as I have referred to, and which experience has abundantly shown constitutes valuable plant food, invariably gets scant notice in books dealing with garden manures. Presumably its value, as evidenced in crop production, has, so far, escaped the notice of the scientists.—A. D.

— NATIONAL AMATEUR GARDENERS' ASSOCIATION.—The annual dinner of this flourishing Association was held on Thursday evening last in the Venetian Chamber, Holborn Restaurant. Mr. T. W. Sanders occupied the chair, being supported by a large number of members and friends. There was also a good attendance of ladies on the occasion. After the usual loyal toasts the Chairman presented the various champion trophies and medals to the winners, and also the diplomas of fellowship to members who had distinguished themselves during the past twelve months in horticultural work. Mr. H. J. Jones offered to replace one of the trophies that had been won right out by the recipient during the season.

— STREET TREES.—I cannot understand the logic evidenced by some local authorities in planting trees in streets in suburban districts and, after they have become several years old and have formed handsome heads, brutally maltreating them every winter by the severest possible pruning, and making them veritable scarecrows and hideous objects for several months in the winter. Just recently walking along a broad suburban road I saw a man engaged in cutting off from the heads of Plane trees every shoot made during the summer. Probably at the rate work was being done it took two hours thus to disfigure a tree. What a waste of labour, time, and money! Were the trees left alone they would each year form dense heads of shoots and foliage, and it would be but needful, say once in four years, to shorten back and thin the branches, work that might be done in March, and thus reduce any period of apparent bareness of branch to the shortest possible. Nature furnishes to trees in summer especially in foliage, but some also in the winter in spray, much that is beautiful. The pruner with his knife despoiling the trees of their beauty, as much commits an outrage on good taste as would the man who would coat a cathedral with whitewash. In another road close by older Lime trees had been trimmed up the stems to a good height of every shoot, so that they were spotted as a leopard with gaping wounds, that were quite undressed. Vandalism seems to be yet rife in our town suburbs.—A KINGSTON VISITOR.

— LATE MUSHROOMS.—On page 442 I notice "Albyn" observes that he gathered in the open park a dish of Mushrooms on November 16th. It may interest him and other readers to learn we gathered in the park a beautiful dish of Mushrooms on December 11th, which is yet another instance of the fine weather we have had.—S. S., Lockinge.

— LAURUSTINUS AND CATTLE.—I note the reply in your correspondents' column respecting the eating of this shrub by cattle. For several years the cattle have eaten the green tops of some bushes growing alongside the Swanmore Park fence without doing them the slightest harm. I have not seen them eat portions that have been cut for some time, so cannot say how such would affect them.—E. MOLYNEUX.

— ARTIFICIALS ON SANDY SOIL.—"H. H. R.," page 455, does not quote me correctly, or Mr. Hall, when he assumes that either he or I regard the application of artificial manures to sandy soil as waste. What I conveyed, and what Mr. Hall understood, was that during such a season as the past inordinately dry one was, their application to sandy soils was waste. Of course, had there been ample rains to render these manures soluble different results might have been found. But sand or clay or gravel, I have grave doubts whether any artificial manures, applied dry, and left absolutely dry all the summer, would have been of any service. As to testing these manures on good soils, I cannot regard such trial as having any appreciable value. But it is now generally advised they be applied in conjunction with animal manures—excellent advice; but still we are left in the dark as to how much good may be due to the one or the other.—A. D.

— GREVILLEA FASCICULATA.—Although this plant was discovered as long ago as 1829, it is still very rare, and is seldom seen. In 1893 a few unnamed seeds were sent to Kew, one of which germinated, and on the plant flowering last year it was found to be this species. It is now flowering again in the temperate house, and fully upholds the reputation it made last year as a first-rate winter-flowering greenhouse plant. The flowers are red and yellow, rather small, but borne with great freedom, several flowers being produced together from each node on the current season's growth. It has been found in the neighbourhood of King George's Sound and the Swan River. It was on the S.W. shore of the former place that it was discovered by D. Baxter in 1829. A figure and description are to be found in the "Botanical Magazine," t. 6105. If cultivators of hardwooded plants would give it a trial I am sure they would be charmed with it, and after being well grown and flowered once, its beauty would be found sufficient to warrant it a prominent place in the future.—D. K.

— BIRMINGHAM GARDENERS' ASSOCIATION.—At the last meeting of members a lecture was given on manures. From a condensed report we find that "potash" is good for Asparagus. Based on this ancient fact is the practice of using seaweed on the beds (near the coast), which gives vegetable matter and potash; farmyard manure and wood ashes inland, which do the same, plus salt for retaining moisture in dry districts, and nitrate of soda for stimulating growth. It was said that chemical manures acted well on some crops, while natural manures were not without effect on others. So it has always been, and so it will ever be, for crops must have food, and this cannot be had by them without moisture. That money is made from artificial manures out of the land as well as in it, is no secret, and it is almost a wonder in these days of trade enterprise that importers and manufacturers do not send missionaries round to boom them and increase sales. It would be interesting to know what our famous growers of vegetables have been using during the last twenty years, by which they have obtained such splendid results.

— DERMATBOTRYS SAUNDERSII.—It is about twenty-five years since this plant was discovered, but it is still rare, owing, no doubt, to the fact that gardeners are unaware of its usefulness as a winter-flowering plant. When not in flower it might be mistaken for one of the taller-growing Sedums. The stems and leaves are fleshy, the latter ovate with slightly serrated margins, and deciduous. They vary in size; the largest ones are 5 inches in length and 3 in width. The flowers are produced in December and January. They are borne, usually in threes, all round the apex of each growth, a young shoot starting usually at the same time from the centre. They are 1½ inch long, slightly pendulous, and red. It is a native of Natal and Zululand, where it is sometimes found growing on the ground, but more often on trees. It is of easy cultivation, being readily grown from seeds or cuttings. Plants twelve months old in 6-inch pots ought to produce seven or eight heads of flowers. The bright colour of the flowers at a dull time of the year ought to make it of value to gardeners as a decorative plant.—W. K.

— **MISTLETOE.**—I was much amused in reading "Amateur's" horticultural proceedings, page 453. I believe his parasitic lodger is quite capable of helping its host, which has not borne leaves. When my master's youngest son was a boy he wished to try his hand at growing Mistletoe, so he rubbed some seeds into the bark of some of the Apple trees. However only one grew, and that was on the branch of an old Kentish Pippin. Four summers ago that branch appeared to be dead, and I feared that the parasite would be starved, and die also; but although that particular branch has not since borne a leaf, the Mistletoe is still flourishing. On examining it to-day I find that the branch is still alive below the Mistletoe, showing clearly, I think, that the parasite has the power to appropriate the sap of its host, although this is leafless.—D. W.

— **"MY GARDEN DIARY."**—Under this simple but expressively appropriate title, we have received an extremely chaste and useful annual from Messrs. Sutton & Sons. On the left-hand side pages are set forth a series of seasonable reminders of what needs doing in the garden; on the right is an almanack and space for memoranda; at the foot are average monthly readings of the barometer and thermometer, as well as the amount of rainfall, as registered at Greenwich over a period of fifty-four years. Towards the end winter vegetables and winter flowers are put, so to say, in a nutshell. No small amount of thought must have been exercised in the production of this little table ornament, which seems to be equally suitable to the whitewashed cottage of the thrifty peasant and the drawing-room of the aristocrat or millionaire. It is all this without a picture in it, and that is something to have achieved in these garish days.

— **SUTTON'S EARLY GIANT PEA.**—When I was lecturing the other day on pod-bearing plants a member of the audience asked me to mention the finest first early Pea. I at once gave Early Giant, for the splendid sample of this Pea shown by Messrs. Sutton & Sons at the Temple in May last has, for a first early variety, never been equalled. Gradus is fine too; but Early Giant so far seems, to use a common phrase, to take the cake. Of course, the splendid samples of the variety shown at the Temple were grown under glass; but then the product would have been just as fine outdoors a month later. Then the sample, and the information given me by the growers, served to show what a future in forced Pea culture was opened up by the introduction of such a variety into commerce, and better knowledge of growing for early picking in large light airy houses. Possibly some persons will ask, "Can glass house culture of Peas be made to pay?" I am assured that so long as the price per pound in shell does not fall below 1s. that it does pay. Still, it is a matter of quantity and quality. If imported Peas fetch high prices in May and June, surely such a superb sample as Early Giant was in May last would fetch treble the amount paid for such poor things as are imported. No doubt, where market growers have erected such immense ranges of glass houses, as Mr. A. Smith has at Feltham, some two miles of 25 feet span, one object in view is early Pea production. That even without heat produce of the finest character can be obtained under glass some two or three weeks earlier than could be got outdoors is certain. Then the crop soon off, makes way for Tomatoes, and so the houses are fully occupied.—A. D.

— **A USEFUL CHRISTMAS PRESENT.**—Happy should be the man who burthened with three or four Christmas holidays—always a grievous burthen to the man of energy and earnestness of life—if he has a piece of ground, whether garden or allotment, in which he can profitably, healthily, and happily spend a few hours daily in pleasant labour. If the Christmas season remains as it is at the present moment of writing, it will be as non-traditional and unconventional as well could be—more resembling April in a genial mood than midwinter. What wonder if such weather invites to garden labour. How happy the man who can so utilise his spare time. What does he gain? If he does a few hours' trenching daily he is laying the foundation of abundant success for several years of crop production. He has the unqualified happiness of knowing that time has been profitably spent, and that his leisure, doubtless enforced, has made him and the nation richer rather than poorer. He is healthier for his exertion, and unlike many of his compeers at that holiday season, not only does not suffer from dyspepsia or repletion, but has a splendid appetite, and enjoys his food thoroughly. He has also found in his work intellectual occupation, for it is one of the special charms of gardening, however elementary the labour, that it furnishes food for thought. To cultivate the soil is to be also cultivating the brain, the particular portion of the human frame which at present with the bulk of humanity gets least culture, and most sadly needs it. Verily it is difficult to suggest for any holiday keeping working man a more desirable Christmas present than is a garden.—INSPECTOR.

— **HAKEA SUAVEOLENS.**—An example of this Australian Protead is in flower in the temperate house at Kew, and, though it can hardly be said to meet the requirements of an establishment where decorative plants only are grown, it is an interesting plant, and is worth including in a collection of hardwooded plants, particularly in botanical gardens. It makes a sturdy growing bush with sharp-pointed, pinnatifid leaves, and produces its flowers in short dense racemes from buds near the apex of the current season's growth. The individual flowers are small, cream-coloured, and sweetly scented. It grows well in sandy peat, and requires no more fire heat than will serve to exclude frost.

— **THE VARIEGATED PERIWINKLE.**—According to Mr. Meehan there are few more valuable plants, suited to ornamentation in window and conservatory culture, than the Variegated Periwinkle, *Vinca major variegata*. As its growth in pot culture is always drooping, it is admirably suited for placing on brackets or shelves in connection with loftier-growing plants; while the creamy white of the variegation, in contrast with the remaining green portion of the leaf, renders it very attractive. The large blue flowers are very showy, though produced sparingly. What is more in its favour, with those who have no great amount of horticultural knowledge, is that it is willing to put up with almost any treatment and to thrive in almost any situation—in sun or shade, in a dry atmosphere or a moist one it makes itself at home.

— **BEET SUGAR.**—While the inhabitants of Great Britain consume 86 lbs. of sugar per head the Russians are credited with only 8½ lbs. A recent official report states that the Beet sugar industry was carried on in Russia as far back as the year 1800. In 1897 the production of sugar in Russia was 644,900 tons, of which 484,000 tons were required for her own population; and in 1896 some 150,000 tons were exported to Europe, most of which, of course, found its way to London. A very encouraging report of the analyses of sugar Beet grown at Romney Marsh, Kent, has been given recently by a firm of sugar refiners of Liverpool. Experiments, it appears, have been conducted at the place named under the cognisance of the Board of Agriculture, and the results tend to prove that the district is highly suitable for the sugar industry.—("Knowledge.")

— **WOOD ASHES AND CHARCOAL AS FERTILISERS.**—The value of wood ashes as a manure has long been known to gardeners. Mr. Harding, Curator of the Botanic Gardens at Toowoomba, Australia, in a letter to an Australian paper says that long observation and study lead him to the conclusion that ashes and charcoal must be classed among the most natural and economic manures that can be applied to plants. These, when used as fertilisers, not infrequently produce a great increase of crop. Fifty pounds of the ashes of an Apple tree, Mr. Harding calculates, will contain 4 lbs. of potash, which must be the substance most largely absorbed by the tree. The power of the potash, Mr. Harding says, to liberate nitrogen from humus is well known, and this action in making available the nitrogen in the soil is strikingly shown when land recently cleared of timber is put into crop. Wherever a heap of logs or brushwood has been burned down, there the vegetation is rank and luxuriant. [It would be interesting to know from the Rev. Professor Henslow or other authorities, if Mr. Harding indicates the real cause of the benefit resulting from burning vegetable matter in heaps on the land, seeing that the effects of such burning often appear as marked on the subsequent crop on sandy or clayey land weak in humus as on that which contains a large amount of decayed vegetable matter.]

— **QUALITY IN POTATOES.**—In the interesting article on "Trials of Field Potatoes" in your "Home Farm" column, I note that out of nineteen varieties there mentioned, my favourite Potato—White Beauty of Hebron—is not mentioned. Where quality is the essential point, this Potato stands quite at the top of any list of varieties, long or short. No other can in my opinion equal this, let alone surpass it, when you consider the length of time its quality from a cooking point is taken into account. In August few are superior, and in April following none is better. The flesh is white, the flavour good, and the eyes few, thus there is hardly any waste in peeling. As a market Potato it realises top price. "White Beauties" will sell when others will not. As a disease resister it is equal to many others with a high reputation in this respect. The height and quantity of its haulm is a distinct point in its favour, as in this respect it is below the average, thus enabling the rows to be closer together. I have sung its praises somewhat loudly; surely it has a fault some will suggest. It has, and a serious one too, when looked at from a market point of view—viz., that of being a light cropper, which it undoubtedly is. I, however, am prepared to accept its failings, and provide an extra acre of land to make up the deficiency in quantity for the sake of its inimitable quality.—E. MOLYNEUX.



ROSE NOTES.

PLANTING.

PLANTING has been in full swing for some time, but is far from completion. I have seldom seen Hybrid Perpetuals and Hybrid Teas in better condition for lifting. The wood is sound, growth free from any suspicion of coarseness, and we are not likely to lose many through transplanting. Too many Roses are planted without a little thought as regards depth. When a Rose is worked upon a foster-stock we are naturally anxious to keep the base of the Rose itself beneath the surface soil. This is quite correct. But let us bear in mind that we are often planting the stock much deeper than is beneficial, and it is to the stock that we look for support to the Rose.

Unless dwarf Roses are worked very close upon the crown of roots, planting sufficiently deep to cover the junction of Rose and stock means an unhealthy condition of the latter. Fortunately we do not often meet with Roses budded so far from the roots as was formerly the case. I have recently been asked the cause of failure among some plants worked upon the Manetti stock; and on lifting they were found budded at least 6 inches above the base of the stock. Now when these Roses were planted the stock was quite 9 to 12 inches lower than was natural to it, consequently it did not thrive. Another bad feature about such careless budding is the large portion of stock remaining, and from which almost innumerable suckers result.

Why some strong, healthy looking plants did not flower freely, and, when they did, produced only clusters of small, semi-double flowers quite distinct and inferior to before, has often been asked me. I answer again, it is through badly worked plants. The Rose had died, and the stock, either Manetti or De la Grifferaie, has grown healthily. The latter stock is so much like some Rose foliage that many an amateur has tended it with care, and then complained of supposed deterioration. It is a great point in favour of seedling Briars as a stock for Roses that they cannot well be budded except close upon the roots, oftentimes only upon the root itself. See that you have sound and not overgrown plants, well worked near the roots of any stock, and plant so that the junction is covered by an inch and a half or so of soil. Such plants will thrive, provided other conditions are not radically wrong.

I must say a word or two about the preparation of the soil. By all means move it deeply. Bastard trenching is the best way. But do not put a thick layer of manure at the bottom. Its juices either percolate beyond reach of the roots or it encourages deep rooting into what will soon be indifferent soil. A very little thought will convince us that the fertilising properties of manure do not rise, but percolate through the soil; hence the greater value of top-dressing, or, at least, the mixing of manures with the upper spit of soil. In cases of stiff or very poor soil some stable manure dug into it, or decayed vegetable refuse and rich loam added, is almost a necessity; but the old idea of deep trenching and manuring, presumably for the roots to find it, is not so successful as mulching, and the after percolation to where the roots are established. We all admit that the finer, or what are known as feeding roots, exist near the surface. Then why not place any added food as nearly as possible to them?

When to plant would seem most important, if one is to judge from the most pressing way purchasers ask for their orders to be executed at a given date. Do it as early as the plants will admit, so long as the soil is in good condition. No fixed date can be given; simply choose that most suitable between October and early in March, and plant firmly. Do not cramp or crowd the roots, and see that plenty of the finer soil is worked among them in the early stages of planting. If very drying winds set in syringe the wood freely, and so lessen the strain upon sap in both wood and roots. We must remember that however carefully a plant is lifted, a very large number of the more minute roots will be broken off. In the case of established plants these would supply the sap needed during drying winds. One reason why I advocate early planting is because the roots quickly push out a few new growths, and are then able to supply enough sap to keep the wood plump and sound.

Mr. E. Mawley's analysis in the issue for October 20th appears even more interesting and instructive than usual. Year by year we

find our home productions taking higher places. It is pleasing to note that the only four varieties starred as new ones taking their position in so wide a competition, are of home origin. These are Mrs. W. J. Grant, Helen Keller, Muriel Grahame, and Tom Wood. All come from Messrs. A. Dickson & Sons, Newtownards, who I also note introduced no less than ten of the seventy-one H. Perpetuals and H. Teas. In the tables of new varieties they head the lists with Helen Keller (1895) and Muriel Grahame (1896) respectively. Among the six new H.P. and H.T. section four came from this firm. Forty-three Roses in the analysis are home-raised, and take the premier position in three out of the four tables. Of the 102 varieties tabulated forty-eight have been sent out during the last two decades, and twenty-three since 1888, being only two less than in the previous decade—a very favourable position when it is borne in mind how much higher a standard has been set. I am sure we all endorse Mr. E. Mawley's assured welcome to a really good white H. Perpetual, also the remarks about a superfluity of pinks.

Catherine Mermet not only heads the list of Teas and Noisettes, but one of her sports follows, and another heads the list of new Roses. This grand old Rose has three sports in a select list of thirty-one varieties, and also what I believe to be its only known seedling—viz., Maman Cochet. It may interest your readers to know that Monsieur Scipion-Cochet has written me confirming the parentage of Maman Cochet. By the way, what a grand Rose this has been this autumn. But I must leave the Rose analysis at present—one of the most interesting and appreciated labours of Mr. E. Mawley's many gifts to rosarians.—PRACTICE.

AKEBIA QUINATA.

THIS pretty twining deciduous shrub is seldom met with out of doors, even in the south of England, where it flourishes so well. Except in this garden I do not recollect another instance of seeing a really good specimen. In the northern counties of both Lancashire and Yorkshire I have met with it as a climber under the roof of a conservatory or greenhouse. Under such conditions its growth is not so sturdy, nor its foliage so densely green, as one is accustomed to see it growing here. In the drier and more or less confined atmosphere of the greenhouse the perfume from its blossoms is perhaps more powerful.

It is said that a compost of sandy loam, leaf soil, and peat is the most suitable for the plant, but in the ordinary strong soil here it flourishes amazingly. The leaves are usually divided into five oval or oblong emarginate leaflets with a stiff wiry stalk, generally 4 to 6 inches long. The leaves are very useful for cutting, as they associate well with small flowers, and are equally useful for "backing" buttonhole bouquets on account of their lasting properties. The purplish-brown flowers are freely produced in axillary racemes in March and April, and are pleasantly scented, but useless for cutting on account of the shortness of the stalks.

For training over gateways, archways, pergolas, or even as a wall climber, Akebia quinata is well worthy of attention. An east or southern aspect is favourable to success. Covering the eastern side of one of the entrances to the kitchen garden is a grand specimen that yearly pervades that part of the garden with its perfume.

When the allotted space is covered the plant should be annually spur-pruned before new growth commences, as by this method of training the flowers are kept closer to the wall, and are thus safer from injury by frost. During the summer, when growth is being freely made, it is well to regulate the shoots by removing any surplus and training the leaders, as when allowed to grow in a mass the shoots so entwine that it is difficult to separate them afterwards. Timely attention in this respect saves much labour later on.

In the greenhouse red spider is likely to attack the leaves if the roots are allowed to become dry; growing outside no insect pest seems to trouble them. The plant alluded to has occupied its present position without any protection for the last twelve years.—E. MOLYNEUX, Swanmore Park, Hants.

[Presumably the Swanmore plant, which grows freely and flowers yearly, has not produced fruit. The specimen represented in fig. 82 was placed before the Committee of the Royal Horticultural Society on November 8th of the present year by Mr. F. Cornish, gardener to the Dowager Lady Bowman, Joldwynds, Dorking. They were quite ripe, and distinctly attractive by their pale lavender colour, and contained many seeds. Such fruits are rare, as produced by plants in the open air in this country. They are plentiful, as the plants cling to hedges, and hang in festoons from trees in China and Japan, and the Japanese use them as an emollient medicine.]

THE BIRMINGHAM BOTANIC GARDEN.

HORTICULTURAL visitors to the busy Midland city can always spend an hour or two, both pleasantly and profitably, in the Botanic Gardens at Edgbaston. If the traveller be so fortunate as to be conducted round the establishment by the genial Curator, Mr. W. B. Latham, the satisfaction is still further increased, for he has the history of every interesting and useful plant in the collection at his command, and his long experience has furnished him with abundant stores of information.

One point must always impress a visitor after a careful inspection, and that is the excellent cultivation prevailing in every department, a condition that is too rare in such collections, especially on the Continent. When a large number of plants from different climates, and with greatly varying requirements in other respects, have to be associated in one house under uniform conditions, it is obviously difficult to insure the equal health of all the occupants. It can only be secured by an intimate knowledge of each plant's special peculiarities, and providing for these as far as possible, and this is evidently what is done at Birmingham.

In past times there seemed to be in botanic gardens generally a reluctance to grow plants healthily and vigorously, lest they should lose their natural characters, and it would appear that it was thought preferable to have them in the starved or stunted condition, that they are sometimes found in a wild state when struggling for existence under adverse circumstances, or with hosts of stronger competitors. Happily such views have changed, and cultivation is now honoured, where it was at one time ignored or disgraced.

In our great national collection at Kew, which must be the pride of every horticultural Briton who knows it well; an excellent example has long been set in this respect, the endeavour being to develop the whole attractions and characters of the plants represented. At Birmingham also good cultivation has been the great object, and during the twenty years I have known the garden there has been a steady but marked advance in this matter.

The spacious conservatory is always a source of attraction, and at the present time is bright with nearly 1000 well-grown Chrysanthemums, which are arranged in effective groups. Occasionally it is used for special displays of plants, for which it is well adapted. For instance, remarkable exhibitions of Orchids, spring flowers, Daffodils, with Violas and Pansies, have been provided at different times. The permanent occupants, such as the Camellias, are notable, especially one huge specimen of *C. indica alba*, which is an extremely old plant, being fully 16 feet in diameter, and the same in height. It occupies a tub 6 feet square, and is kept in perfect health by means of liberal root treatment and thorough cleanliness, producing large numbers of its pure, regularly formed flowers. These plants are not the popular favourites they were some years ago, but it is difficult to find anything more stately and handsome than a large specimen Camellia in fine condition.

Lapagerias are well grown in this conservatory, and one large example proves for what a length of time the plant can be maintained in health under good management. This is the ordinary red variety of *L. rosea*, which has occupied the same position for twenty-five years, and is now covering considerable roof space, and producing

its flowers in profusion. Younger plants of the Nash Court variety and alba are flourishing in a similarly satisfactory manner.

Bougainvilleas are favourites, the old *B. glabra* succeeding admirably. *B. spectabilis* also was tried for ten years, but though Mr. Latham has been very successful in flowering some other plants which are considered difficult to manage, he has shared the fate of many other growers with this Bougainvillea, and never obtained a single flower. The late Mr. Thomas Baines always maintained that this species could be flowered under the same treatment as *B. glabra*, but with the difference that it should be cut hard "after flowering," and not before, as is usually done with *B. glabra*. This simply means that the growth must be allowed to extend freely, cutting out the weakest or crowded shoots until flowers are produced; but ten years is a good trial of patience, and it is not surprising that Mr. Latham, as well as others, has discarded the plant.

Orchids are numerous and healthy, the handsome *Dendrobium formosum giganteum* being a favourite, and several vigorous specimens on blocks suspended from the roof of one of the houses produce an annual display of large flowers. Several hybrid *Cypripediums* have been raised, these including *C. Lathamii*, which is now well known as a freely flowering useful plant. *C. Deesmanianum* is also interesting as the result of a cross between *C. Spicerianum* and *C. Chamberlainianum*. The dorsal sepal resembles that of the former species, while the lip is large, of a bright purplish tint, and the petals regularly undulated. *C. Charlesworthii* was also represented by a fine and highly coloured form.

Trained to the side and roof of one of the houses is a variety of *Aristolochia gigas*, which has had during the season upwards of thirty enormous flowers. One of the largest was 21½ inches in breadth one way, 18 inches across another way, and bore "tails" 3½ feet long. With several

flowers open at one time the extraordinary appearance of the plant can be readily imagined.

Odontadenia speciosa, better known perhaps as *Dipladenia Harrisi*, is another interesting plant which is trained along the roof and over the path of a stove. This beautiful climber is a member of the Apocynaceæ family, and was introduced from Trinidad in 1854, when, I believe, Messrs. Veitch & Sons distributed it under the second name given above. It has been grown at Birmingham for thirty years, and for about a third of that time failed to produce any flowers. After trying several expedients, Mr. Latham discovered exactly what was required, and has never failed once since. The plant grows freely, and makes shoots from 20 to 30 feet long in a season. The method adopted is to cut this hard back every year, and when it has produced about 10 feet of fresh growth the next season this is stopped, and the check thus given apparently causes the production of the flowers, for they follow with great regularity shortly after the operation, and are borne in succession throughout the summer. It is a handsome plant, with large deep green lanceolate leaves; the flowers tubular, bright yellow, with brilliant red streaks in the throat, the corolla lobes being also tinged with red. Mr. George Nicholson, the Curator at Kew, says of this plant, that it "does best when planted out in a prepared border in the stove, and the long shoots trained along the rafters. If in pots, a fairly liberal amount of roof room must be accorded, and thorough drainage is always essential. Good turfy loam, pieces of charcoal, or



FIG. 82.—FRUIT OF *AKEBIA QUINATA*.

a handful of coarsely crushed bones and sharp sand, make a compost in which the species succeeds well." He does not refer, however, to any difficulty in flowering it, which is somewhat strange. Perhaps Mr. Wm. Watson, who has been very successful with many tardily flowering plants, could confirm Mr. Latham's experience.

There are many other plants in the Birmingham garden that are worthy of note, and if time permits I hope to refer to them on another occasion. With the present great demand for Chrysanthemum news, I expect the Editor will not be able to find space for more notes of this kind now.—L. CASTLE.

A MINCE PIE.

Now that the rush of shows is over "our Journal" makes more enjoyable reading—at least, that was my impression when looking through the number for December 15th, and it suggests materials for a literary mince pie.

VINES AND POTATOES.

What a prolific writer is Mr. G. Abbey! One week we have a splendid article on "Rust," at other times he gives us excellent advice on the treatment of Apricots, and last week we had exhaustive articles on "Pruning Vines" and "Diseased Potatoes." Would that everyone who has a Vine, whether he (or she) be an amateur or professional, could read, learn, and digest the advice given on pages 449 and 450. It brought to my mind some houses of apologies for Vines noticed a few months since. Grown on the spur system, with six or more laterals where there should only have been one, and each of these cut back every year to one bud, a thicket of small useless shoots was produced, but no Grapes. These Vines, I must say, are not under the charge of a gardener, or at any rate only just now and again is one called in. I tried to point out to the owner a different method of working, and hope he will obtain better results in a few years. I wonder how many gardeners would produce such work as that on page 463. I have read it through several times, but it is too big a dose to take at once. I should like to commit it to memory, and "roll it off" some night when talking about insect and other pests, but am afraid it would be rather bewildering. The more practical part—dressing with lime, slag, and kainit—will be of great assistance to Potato growers. I shall take this number with me sometimes on my rounds.

PRUNING FRUIT TREES.

"Nurseryman" (page 452) sits on some of his customers because they treat his (or rather those trees that were once his) improperly. Quite right, too! I have noticed the same thing, more especially with standard or orchard trees. It is a too common practice in the west of England to see farmers and others plant trees from five to eight years old, and costing from 4s. to 5s. each, with perhaps from a dozen to twenty branches to the heads. These are in many cases left without any thinning or pruning of any kind. Result—no growth. Some varieties would produce fruit buds freely, bear fruit the second season after planting (and perhaps the first), and become cripples. The only way to get growth into them then would be to head hard back to dormant buds. Would it not be better practice to plant younger trees, say three or four years, from the bud or graft, thin the shoots at planting time to the requisite number for forming a head, and shorten these in the following spring, taking off from a third with strong growing varieties, to a half or two-thirds with weaker growers, to make them break strongly? This is my practice, and advice.

UNCLEAN FRUIT TREES.

I have backed up "Nurseryman" so far, now I want to side with the customers of nurserymen, and have just a word or two about dirty trees. I know the majority of our first-class nurserymen take exceptional pains with their stock in keeping it clean. Others are not so careful. Large quantities of trees, Apples chiefly, are sent out infested with that, almost the worst of all pests, American blight. Others are so badly covered with the minute Apple scale that hardly a bit of clean bark can be seen on the stems. You may think this is rather a strong assertion, but I can back it up, as I have seen hundreds of these infested trees within the last two years, also orchards and gardens where American blight was introduced with grafts purchased from a distance. I am sorry to say that we rarely see an orchard, garden, or plantation entirely free from the pest. Some few weeks since there was something said about "combined effort in stamping out codlin moths." It would take a big effort to stamp out the American blight. For my part I should like to see a greater effort made by some of our nurserymen to stamp it out in their nurseries.

FLAVOURING.

"Freaks of Men," "Comments on Apples," and "Trials of Field Potatoes" are good reading, the two former causing one to smile a

little. Was the Editor giving a little "pen prick" in suggesting that "D. W." struck the head of the Sykehouse Russet tree? I am afraid I have not many ingredients in my mince pie, and some of those are in, perhaps, too large proportions, but hope it will not give anyone indigestion. The Editor may not serve it up, but he knows I am a "constant reader," although a very "inconstant contributor." Whichever way it is I offer him, and all the readers of our Journal, my best wishes for a Happy Christmas.—JOHN ETTLE (*County Instructor*), Weston-super-Mare, Somerset.

THE NATIONAL CARNATION AND NATIONAL AURICULA SOCIETIES.

JUDGING from the meetings recently held our special floricultural societies appear to be prospering. The National Dahlia Society was able to show an excellent record for the past year, and the National Carnation and the National Auricula Societies, which held their annual meetings on the 14th inst., followed suit. These took place at the Horticultural Club, Martin R. Smith, Esq., presiding over a large gathering of "Carnationists." No report was presented; but the financial statement showed there had been received as subscriptions £248 1s., and prizes paid to the amount of £182 16s. 6d. The balance in hand at the beginning of the year, amounting to £208 16s. 9d., had grown to £253 10s. 7d., a state of things of a highly satisfactory character, and it is mainly owing to Mr. Smith's generosity and warm personal interest in the work of the Society.

As there were many cultivators and exhibitors present, advantage was taken of the circumstance to revise the schedule of prizes, which was extended in some important particulars, and especially in the amateur classes, some new ones being added. Mr. Smith announced his intention to withdraw the special prizes he had for years past offered for border varieties, considering they had amply served the purpose for which they were originally instituted, but stated he should offer cups in other classes in lieu thereof.

Mr. J. Douglas renewed his efforts to secure in the future that in the classes for yellow ground Picotees, those with edges approaching the white ground Picotees should be awarded the prizes, his contention being that flowers of dingy yellow grounds and longitudinal markings are accepted by the judges as Picotees. Mr. Douglas failed upon this occasion, it being urged against his proposal that there are very few really yellow ground Picotees—not enough to justify the Committee in setting up a stricter standard of flowers than has hitherto been made. But Mr. Douglas has only to keep hammering away to carry his point. The date of the show was provisionally fixed for Wednesday, July 19th, as usual, at the Crystal Palace.

Mr. Smith was re-elected President by acclamation; the Vice-Presidents and Committee were equally fortunate; and Mr. T. E. Henwood was re-elected Treasurer and Secretary. Complaint was made of confusion and lack of space in arranging the exhibits, but Mr. Henwood said he would be personally responsible for the arrangements in the future, and promised there should be no further cause for complaint. A hearty vote of thanks was passed to Mr. M. R. Smith for presiding.

The annual meeting of the members of the National Auricula and Primula Society followed close upon this, Mr. Harry Turner presiding. Considering that the Auricula as an exhibition plant is somewhat sparingly grown, the success of the Society is encouraging. As no report was presented no statistics were forthcoming, but expression that though the exhibition held in April last was satisfactory in many respects, yet owing to the incidence of the season the quality of the flowers was not up to the usual average. The schedule of prizes will undergo but little modification, but the gold-laced Polyanthus was restored, classes being provided for three and one plant. It was announced that the exhibition will take place on Tuesday, April 18th, at the Drill Hall, Westminster. Sir John T. D. Llewelyn, Bart., M.P., was re-elected President. The Vice-Presidents and Committee were also re-appointed, together with Mr. T. E. Henwood as Treasurer and Secretary. A vote of thanks was passed to Mr. Turner for presiding.

— FLOWER FERTILISATION.—The fertilisation of flowers has been dealt with recently in Adelaide by Professor Tate, who has just concluded a series of lectures on this subject in connection with the University Extension movement. The first lecture, reports the "Advertiser," illustrated various floral arrangements which facilitated cross-fertilisation by the action of insects, in which, however, the plants were essentially passive. Later on the subject was continued, and extended by the illustration of several floral mechanisms, whereby the visit of an insect to a flower released mechanism, and in so doing its body became dusted with pollen, and was thus carried to another flower. Among these mechanical devices were the piston mechanism in the flower of *Lotus australis* and other allied Pea flowers, the explosive apparatus of the Broom flower, the tilting apparatus in the garden Sage. As illustrating the mechanism and devices by which insects were forcibly detained in flowers for a certain time, reference was especially made to the South Australian Orchids, *Pterostylis longifolia*, to Arum plants, and to the flowers of the Birthworts. The carnivorous habits of the Australian Sundews, Bladderworts and Pitcher plants were discoursed upon, and the methods of catching their prey were illustrated.—("Indian Gardening.")

REPORTS AND ANALYSES.

ON page 455 I referred to Mr. Brotherston's article as a concrete case brought before me with insufficient details, hence my wish that it should be supplemented. Whenever I am able from my observation to substantiate any instructive results, I shall be pleased to try and realise our Editor's expectations. A small experience may here be ventured upon, if he thinks it worth while, in reference to slope and shelter, which I referred to under No. 3 of "my charter," just to show what it may mean when reports of crops are in question.

When about 24th September, 1897, a rather sharp early frost occurred, it utterly destroyed a dozen or more Dahlias in full bloom. They were growing near the bottom of a garden gently sloping south, next to an adjacent meadow, opening up the view of the country due south. Plants in a front garden (in a finished street, with detached villas on both sides), and also flourishing, escaped without any harm, a north wind blowing during the night, and they continued to flower for weeks. The damp arising in the meadow had resulted in covering the Dahlias in the garden with hoar frost, while the drier air in the street saved the plants in its immediate vicinity. A similar contrast would arise in the case of fruit trees in bloom in the spring, and the lesson cited may thus be useful. The crops of Pears and Apples, although the trees blossomed liberally, were mostly destroyed by the cold weather in May and June, particularly the Pears, wall fruit escaping.

The soil in this case is clayey loam, elevation 120 feet above sea level, whereas, were I at a level of 300 feet above the sea, my crops would not have been exposed to frost which prevailed in the lowlands mostly.

As to the "charter," I can supply a fuller one concerning fruit and vegetables which should, where possible, be supplied in reports in question:

- 1, County and locality of reporters, evidence and even date useful.
- 2, Site of property, its slope (if any), its aspect, shelter (if any) from cold and from rough quarters, with description of soil, best as per analysis.
- 3, Elevation above sea level.
- 4, Soil, subsoil to 2 feet depth.
- 5, Irrigation or watering.
- 6, Manuring.

If fruit trees are in question, the following should be added:

- 7, Form of trees, whether standards in grass orchards, or regular modern fruit plantation in bush or pyramid form
- 8, Approximate age from graft.
- 9, Stock on which grafted.
- 10, System of pruning.
- 11, Any further matter of influence on results such as spraying, intercropping, wall trees, and other appropriate points.

In reference to the value of analysis of the soil Mr. John Hughes, F.I.C., district agricultural analyst for Herefordshire, mentioned in the "Standard" of the 5th inst. that so far field experiments were only of very local advantage, because soil analyses are withheld from the published results, and that these are not only necessary as an aid to profitable and economic manuring, but are found to be of practical value. In the "Standard's" next issue Mr. Wm. Newton, Ph.D., F.I.C., confirmed the foregoing with additions. It is useful to state this in connection with my previous pointed reference to analysis.—H. H. R., *Forest Hill*.

To one or two matters in "H. H. R.'s" contribution on page 455 I desire to direct attention for the purpose indicated by the above title, and I should like to preface my remarks by stating that I do not write them in a carping or cavilling spirit, but simply to obtain correct information on the questions herein referred to. In the first place, "H. H. R." advises every enterprising gardener to procure an analysis of the soil, and then distinctly and unreservedly states that "from the composition" of the soil "being correctly judged will depend the style of manuring, if to be done in the most efficient way."

What is here meant by "correctly judged?" Did your correspondent admit that it is possible for a plant to be starved whilst it is in the midst of an abundance of plant food? I do not in the least wish to depreciate the value of soil analysis, but hold the opinion that such analyses as suggested by "H. H. R." is of little or no value to the tiller of the soil. To make analyses useful as a means to economise valuable plant food it would be necessary to show what food is available for the immediate use of the crop; and, further, the cultivator will require to know the particular kind of food that is most largely drawn upon by the various kinds of plants or crops.

Again, I would ask, is your correspondent correct in stating that "plant life takes only 5 per cent. of its total from the soil and 95 per cent. from the air?" I believe that all recognised authorities are unanimous in agreeing that plants are largely composed of water, which is absorbed by the roots.

Mr. Cousins, in his primer, "The Chemistry of the Garden," to which your correspondent refers, states on page 8 that about "80 per cent. of the total weight of plants is composed of water absorbed by the roots."

Probably "H. H. R." intended to say that only about 5 per cent. of the dried substance of plants was absorbed from the soil, but he should recollect that the mineral food is taken up in solution, and, consequently, the large amount of water found in plants is imbibed almost, if not wholly, by the roots.—W. NEILD, *Cheshire*.

SOIL analysis appears to be a tempting subject to theorists. I have had a little to do with it, or rather with soil that has been subjected to the

process, not without cost. The results obtained differed in ten instances, and we were advised to give as many different manure mixtures as were considered appropriate to each case; yet all the soils came from the same field, and that not a large one. Scientifically we should be told to mix all the soils, take an average of the constituents, and then it would follow to mix all the manures, but surely this mixing could be done without the analysis. When I see writers clamouring for analyses to guide them, I always think, but of course may be sometimes wrong, that they are not experienced cultivators but faddists. It should, perhaps, be added that as to altitude, some of the land is 300 feet above sea level, some less than 200 feet; staple—clay, sand, gravel, with a change to a peaty medium, over an area of thirty acres.—GARDENER, *England*.

WONDERINGS.

A GOOD deal of matter has been published in the *Journal of Horticulture* from time to time on wanderings here and there. That it has been interesting, suggestive, and instructive is freely admitted, but only a few can indulge in such journeyings. Most gardeners are fixed by the chain of duty; but if we cannot wander we can wonder, and we do. I have been engaged in that easy mental process of late on the following few subjects and their treatment.

ON APPLES AND MEN.

Much has been written on this subject during the past week or two. Mr. Raillem's crisp remarks may fit his own case happily enough, but many gardeners have little or no option about the varieties of Apples found in gardens. I believe I am right in saying that in cases without number fruit trees are ordered from the grower in collections, and the gardener has to make the best of them. This, however, is almost beside the mark. What I think about the discussion is, that as far as possible in sending reports, favourable or otherwise, as to the behaviour of different varieties, the locality from whence they hail should be indicated—east, west, north or south, high or low, wet or dry—for all have their influences. I enjoy the remarks of the various writers, although they often leave me a good deal to wonder about. Perhaps the vagueness is intended to sharpen one's mental faculties. I wonder if it is so.

ON MANURES.

Truly last week's issue, in its wealth of controversy, carried me back to old times. Manures artificial and natural, lime and sulphur, sulphate of ammonia and nitrate of potash, pervaded the pages. Even the "Farmer" caught the infection. Will it lead to greater light on a perplexing subject? Some of the most beautiful forms of life in fruit and flowers derive assistance from what, to many people, is the reverse of attractive matter, but to the gardener most interesting. I fear, however, that the day is far distant when by soil analysis and so-called scientific reparations we may be able to feed our crops to within an ounce of their requirements without waste of any kind. Meanwhile, until the light shines, I must needs be old-fashioned and stick to good animal manure as a stand-by, relying upon such things as nitrate of soda, very much as our coachman in a lads the flick of the whip to the force of the manger.

ON FLORAL DECORATIONS.

With much that Mr. Street has written under this heading I am in accord, but am compelled to wonder why he pens such a remark as this: "Surely no decorator would be so extravagant as to use such expensive flowers (Calanthes) for laying on the cloth"—or words to that effect. As an old decorator I have not only seen this done, but have had it to do. The spikes were picked up immediately dinner was ended, placed in water in a cool place and eared for, the next evening but one used again for the dinner table, after which they have done service in the rooms for a week or ten days. Where is the extravagance? As to its being a depraved taste to use foreign foliage with flowers, I fail to see why. Good artists have done this in their pictures over and over again, and one does not hear of its being an infringement of the rules of "high art;" why should it be so in floral decorations?

ON ADVERTISEMENTS.

My first connection with these dates back some considerable time, when it was part of my lot to sort and file the hundreds of "ads" sent in to one of our great "dailies." A queer beginning for a gardener! but I have had a worse experience since, and the columns of "Situations Wanted" have to me a melancholy interest, for well do I know what the weary waiting means. It seems pitiable to see good men (hoping for what in some cases never comes), capable of maintaining their early training in first-rate gardens, but who from necessity have in many instances to become "submerged" in some obscure situation; but so long as competition is so fierce there is, I suppose, no help for the state of affairs; still, I often wonder with sad thoughts what becomes of all these men.

ON OLD WRITERS.

From the subject of last week's leader to "Diseased Potatoes" is a far cry, from the sound, practical advice contained in the former, to the learning brought out so clearly in the latter on parasitic life. Long may the veteran flourish. The instructive paper headed "Bulbs and Their Culture" I see is ended. So long as the *Journal* owns such wielders of the pen as these, so entertaining and so facile, besides numerous other writers, I fear the time will be long ere there is much space to dispose of for those who hope to follow in their wake.—SUBMERGED.

[It depends on the "followers"—their capacity as gardeners, and their judgment, aptitude, and methods in wielding the pen. Nothing more.]

BROUGHAM HALL.

SITUATED one and a quarter mile from the ancient market town of Penrith in Cumberland, and just within the county of Westmoreland, Brougham Hall stands on the banks of the River Lowther, and from its elevated position commands a view of the whole of the mountains of the Lake district. Its position has gained for it the soubriquet of the Windsor of the North. The Hall, half castle and half mansion, is of ancient construction, and a great portion of its embattled walls, turrets, and gateways are mantled with Ivy. The great Hall entrance, a double cube of 40 feet by 20 feet and 20 feet high, has six windows of stained glass, and contains much curious armour. In one of the bedrooms is a bedstead which, if not actually occupied by Mary Queen of Scots, was by one of her maids of honour. It is ornamented with the Shrewsbury arms, and came from Sheffield Castle. The chapel adjoining the Hall is of great antiquity. The windows at the eastern end are said to be Anglo-Norman, and are filled with some of the oldest stained glass in the kingdom, while the communion plate is of very ancient date.

The family of Brougham or Burgham resided here before the Norman Conquest. Walter De Burgham held these lands in the reign of Edward the Confessor. At the Conquest the Burghams were tenants *in capite* by the tenure of drengage, which was a military tenure differing from tenure by knight service, inasmuch as those holding lands by drengage so held them before the Conquest, and were continued in them on submitting to the Conqueror, coming down in an unbroken succession with knights and squires to the most illustrious member of the family, Henry Brougham, who was made Lord Chancellor and elevated to the peerage on the succession of the Grey Administration in 1830. The present and third Lord Brougham and Vaux is nephew of the great Lord Chancellor.

My visit to Brougham was made on a dark and dreary November day, when the distant mountains were capped with snow, and the rivers swollen with its meltings—an unpropitious day indeed to view a fair domain. I was most courteously received by Mr. Taylor, the head gardener. Though the gardens are not large in the strict sense of the word, the demand on their resources is very great. Forced spring flowers are not much grown, as the family in the early days of spring resides on their estate in the Riviera, The Château Elenore. I propose confining my remarks to the glass houses, as everyone knows the outdoor garden is not sufficiently inviting at this period of the year.

There are thirteen houses, and a long Peach house contained about 100 Chrysanthemums, grown for large blooms, in full beauty. Edith Tabor and Mons. Chas. Molin I particularly admired on the wall tied to the wires. Many singles varieties were observed, amongst which Mrs. McDonald and Mrs. Field were very charming. There are in another range two vineries, in one of which a few bunches of black Grapes were still hanging, and in the other were about four dozen Chrysanthemums in equal numbers of Florence Davis and Cecil Wray, both having fine blooms. In the Peach house adjoining were Chrysanthemums Source d'Or and the single white Purity. In all about 600 Chrysanthemums are grown. Next to the Peach house is a long lean-to house filled with Palms of various sizes for room adornment. Smilax asparagoides, in 6-inch pots, was doing extremely well on strings in the front.

The next structure entered was a span-roofed range 140 feet in length, in two divisions. Six iron arches covered with Cissus discolor canopied the pathway at intervals, and the stages were luxuriantly draped with Panicum and Selaginella cœsia. Underneath the stages were Selaginella denticulata and various Ferns, with Curculigo recurvata showing its graceful form at intervals. On the side stages of the first division were many large specimens, such as Microlepia hirta cristata, Sansevieria zeylanica, Acalypha musaica, and Phaius grandifolius showing flower spikes, and at least a dozen remarkably fine plants in 6-inch pots of Panax Victorie 18 inches to 2 feet in height. These will be most useful for room vases, for which their beauty of form and leafage so well adapts them. In the next division Anthuriums of the Andreanum varieties with A. crystallinum and A. Warocqueanum occupied the whole of one side, the other being filled with Pterocarpus, Hymenocallis, small Kentias in 48's, Adiantums, and coloured Dracenas. On the roof of this range were Allamanda Schottii which had flowered in great profusion, Passiflora edulis, and Stephanotis, with six hanging baskets of Dendrobium chrysanthum, one growth of which bore as many as seventy-two flowers. The wall at the extreme end of the range was covered with Selaginella denticulata, with many charming and distinct varieties of Begonia Rex springing from its green surface, and I must not forget the dozen pots of Begonia Gloire de Lorraine covered with the exquisite pink blossoms hanging from the roof.

A span-roofed range in four divisions had many healthy plants of Dendrobium phalaenopsis Schröderianum suspended in pans, and a plant of Dendrobium formosum giganteum was in bloom. A dozen large plants of Vanda cœrulea in baskets hung from the roof, but I was only in time to see the last spike. These plants had done remarkably well. Crotons, Gardenias, and coloured Dracenas stood on the side stages. One hundred dwarf Poinsettias were expanding their brilliant bracts, while very conspicuous were two noble specimens of Adiantum Farleyense. Calla Elliotiana, of which Mr. Taylor thinks most highly, was represented by two old plants and seventy seedlings. The seeds were saved from the two plants. Many healthy specimens of Cymbidium Lowianum and C. eburneum, with warm-house Cypripediums, were noted, as well as a

good plant of Cypripedium Spicerianum in flower. Oncidium Jonesianum hung from the roof, as did several hybrid deciduous Calanthes. One plant of Calanthe Sandhurstiana had over three dozen expanded blooms, and C. William Murray had two dozen flowers. The sweet-scented Dendrobium heterocarpum was also flowering. Nestling amongst Maiden-hair Ferns were three or four dozen Calanthe Veitchii with good spikes, but this was only a last remnant of what had been. Lælia anceps; Phalaenopsis, mostly Schillerianum and amabilis; and Angraecum sesquipedale were also noted in splendid form. Sarraeenias were the picture of health, and many plants of Odontoglossum grande were just out of flower, but large plants of Cypripedium insigne were in full beauty.

In the frame ground were seven two-light frames of Marie Louise Violets, which are in constant request, and also a similar number filled with border Carnations in small pots. On a shelf in a vinery a healthy young stock of some hundreds of Malmaison Carnations were seen, while in a cool house a good collection of Odontoglossum crispum and O. Pescatorei was seen, also about one hundred plants of the tree Carnation Mdle. Thérèse Franco in bloom.—F. STREET.

THE GREAT GRAPE CLASS AT SHREWSBURY.

I THINK every exhibitor of Grapes will hail with satisfaction the intimation on page 458 of the great Grape competition to be held at Shrewsbury next August. The Society is to be congratulated, not only on the unprecedented liberality of the prizes offered, but I think the more so in being the first society to inaugurate what appears to me to be the only fair way of judging Grapes—viz., points to be given to every bunch according to its merits, irrespective of variety.

Before seeing the full conditions in the schedule governing this competition we cannot say much; but from what we know that all Grapes, with the exception of Muscat of Alexandria, are to be entitled to the same maximum number of points, it should be made clear how the judges are to act in the case of a bunch, say, of Alnwick Seedling or Gros Maroc being placed before them, perfect in every way, and in their opinion justly entitled to the maximum number of points, and a similar faultless bunch of, say, Hamburg or Madresfield Court. Would both receive the maximum? and would this be fair? This is a point which I trust will be made clear in the interest of judges and exhibitors alike.—D. BUCHANAN, Forth Vineyards, Kippin.

[If one bunch were considered more meritorious than the other we presume points would be awarded accordingly, though neither might be given the greatest possible number. It is much "easier to write and talk about maximums" than winning them.]

NATIONAL AMATEUR GARDENERS'

ASSOCIATION.—LIVERPOOL BRANCH.

ON Thursday evening one of the most interesting and at the same time successful events in the history of the above branch was held in the Common Hall, Haekins Hey, Liverpool. This took the form of a conversazione and concert, presided over by J. H. Drake, Esq. The room had been draped with a variety of Oriental rugs and curtains by Messrs. Frisby, Dyke & Co., whilst Mr. R. Pinnington had been responsible for a table of cut flowers supplied by Messrs. W. Clibran & Sons, Altrincham, and which were much admired.

In a few opening remarks, the President extended a hearty welcome to the very large number of ladies and gentlemen present, and spoke of the great success attending the branch during the present season, and of his hopes for its future prosperity. The first part of an admirable musical programme, under the management of Mr. R. Pinnington, was then gone through, to the enjoyment of those present.

During the interval a very pleasing and at the same time well-deserved compliment was paid to the services of J. M. Smyth, Esq., the indefatigable Secretary of the branch since its formation. Mr. Smyth is about to be married, and so the members thought that their opportunity of recognising his many good qualities should not be allowed to pass. In a few words, Mr. Drake begged Mr. Smyth to accept on behalf of members of the branch a handsome marble clock with inscription and side ornaments of marble beautifully chased in gold. Mr. Smyth was quite taken by surprise, and in responding heartily thanked all present for their good fellowship.

The second part of the programme was then proceeded with. Votes of thanks to Chairman and artistes were proposed by Mr. Ardran and seconded by Mr. Histed.

— GREVILLEA BANKSI.—In the days when New Holland plants were sought after as eagerly as Orchids are in the present day this would, without doubt, occupy a high place in the estimation of horticulturists. That these plants, which were at one time so popular, should be lost to cultivation (outside botanical gardens) is a pity, as many of them are very beautiful, the one under notice being a case in point. The pinnatifid leaves are often 8 inches long, the upper surface green, the under covered with a silvery felt. The flowers are red, and borne in a dense upright terminal spike several inches long. Each flower is about an inch long, and from it a long curved style protrudes. As a large number of flowers are borne on each spike these long twisted styles have a very curious appearance, bearing some resemblance to a cylindrical mass of red thread. A plant bearing a medium-sized flower head can be seen in the "temperate house" at Kew.

MANETTIA BICOLOR.

WHEN well grown this pretty climbing plant makes a fine display during the greater part of the year, and is to be recommended for the warm greenhouse, either for planting out or for growing in pots. It is a South American plant of more or less herbaceous growth, with ovate leaves, which vary considerably in size. The flowers (fig. 83) are tubular, three-quarters to 1 inch long, with petioles double that length. They are red and yellow in colour, the lower portion being of the former, and the mouth the latter colour, and are thickly covered with minute, soft spiny growths. On healthy plants the flowers are produced with great freedom, and a charming object is formed by the combination of the two bright shades of colour. When grown in pots, a balloon or pyramidal-shaped wire support should be given for it to ramble over; by this plan good plants can be had for decorative purposes. When planted out growth is much quicker, and a pretty clothing is soon made for a wall or pillar. A mixture of loam, peat and sand is suitable for it, and it can be readily increased by means of seeds or cuttings in spring.—W. D.

ROYAL HORTICULTURAL

SOCIETY.—DECEMBER 13TH.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair); Mr. Veitch, Mr. Michael, Dr. Müller, Mr. Bennett-Poë, Mr. Sutton, Prof. Church, Rev. W. Wilks, and Rev. Prof. Henslow, Hon. Sec.; Visitor, Mr. Diderich, from Australia.

Prunus Lusitanica var. *Azorica*.—A spray with fruit of this variety of the Portugal Laurel was shown, having been sent by Miss Breton, Forest End, Sandhurst. Mr. Veitch observed that as a garden variety it had no special merits but rather the reverse, in consequence of its straggling habit.

Narcissus pachybolbos.—With reference to this species Mr. Diderich remarked that it grows freely in Australia, though it is one rarely cultivated in this country. It is a native of Algeria.

Narcissus viridiflorus.—A flower of this rare species was sent by Mr. Kingswell of Harrow Weald. It is an autumn-flowering species, rarely cultivated, but introduced from Spain or Barbary in 1529, according to Paxton.

Begonia renosa, Skam.—A new species from Brazil, with remarkable habit and large leaves, densely tomentose below and furfuraceous, with substellate hairs above. The flowers are small, pinky white. A botanical certificate was unanimously awarded to this very interesting species. It was received from Mr. Gilbert Christy, F.L.S. It had been raised from seed procured by Prof. Löfgren on an island near Para.

Asparagus Sprengeri.—Introduced from the Cape about four years ago; it was exhibited by Mr. May. Two varieties, raised without crossing, have already appeared—viz., *compactus* and *densissimus*. It is an interesting species in that the "needle-like" structures of the garden Asparagus are in this species represented by genuine leaves, revealing the true nature of the former.

Caterpillars.—Some living specimens of three sorts were received from Miss L. H. Paterson (Edinburgh) and forwarded to Mr. McLachlan, who reports as follows:—"One of the caterpillars (brown) is the larva of one of the 'rove' beetles (Staphylinidæ). They are mostly carnivorous or feed on decaying vegetable matter, so that they are generally beneficial. The other (a white one) is the larva of *Hepialus sylvinus*, one of the 'Swift moths.' The 'ghost moth' is of the same genus. It is destructive to the roots of anything herbaceous. The third was the larva of one of the Noctua moths, probably *Agrotis segetum*. It is very destructive, and feeds chiefly at night. It has nothing whatever to do with the cockchafer, which it was thought to resemble. The above are all general feeders. It might be as well to lift the plants where they occur and supply fresh earth, burning the old. Insectivorous birds should be encouraged. A dressing of gas lime, repeated several times, might do good, but it should be used cautiously."

Apple tree diseased.—Mr. Bunyard sent a small branch curiously affected, with the following observations:—"The branch was sent to me by Rev. A. Foster-Melliar, in whose garden the tree grows. When the branch was cut it was in a pappy floccose state; this appearance had

suddenly broken out in a tree grafted two years ago. It probably arose from strong unmaturing wood being over-fed with stimulants. The tree had made a very gross growth." The specimen was forwarded to Dr. W. G. Smith for further examination.

THE YOUNG GARDENERS' DOMAIN.

NERINES.

IN reference to the culture of these beautiful plants, described by "X. L. C. R." on page 367, I may say that, with one exception, our mode of treatment is identical with the method there advocated, and where we differ is in the high temperature he alludes to. I should be greatly obliged to "X. L. C. R." if he would kindly state what advantage is obtained from employing so much heat, and if it is not encroaching too much, to ask if bulbs treated thus retain their vitality for any length of time. I have found that bulbs, generally speaking, with plenty of "go" in them, will flower under adverse conditions for a season or two, when they will deteriorate, which, of course, means ultimate failure.

We have four varieties, *Nerine Fothergilli* major, *N. corusca*, *N. crispa*, *N. sarniensis*, all of which are in a cold Peach house facing south. At the present time, December 10th, they occupy a high shelf close to the glass, air being admitted when the external conditions are favourable. In case of severe weather we remove them to a house where a little artificial heat can be given them, with a night temperature of about 40° to 45°, and by day, 60° to 70°, which is rarely exceeded. We use our plants for house furnishing in pots, and also the cut flowers. For years our plants have received the treatment quoted above, and have given entire satisfaction.—PARVO.

THE PRUNING OF APPLES AND PEARS.

MY remarks on this subject will be applied to trees grown for the production of fruit for market purposes. I do not know, but I think that most of the writers for the "Domain" are in private establishments, and therefore my observations may be a little from the beaten track. The principal forms of trees grown are the standard and bush, and the stocks are Crab and Paradise for Apples, with Pear and Quince for Pears. The main objects sought in pruning should be the production of sound, well matured wood, that will produce the best possible fruit, both in quantity and quality. The reason why pyramids are not grown by market men, is because the large amount of cutting necessary to keep them in true form is more conducive to quality than quantity.

Newly planted trees should be cut hard back for two years after planting, to secure strong growths for the future, with a corresponding increase of roots. This pruning ought to be done in March or April, when the sap is rising freely and not during the previous autumn. I have tried both systems, and where the autumn pruned have made 1 foot of growth, the spring pruned have made 2 and 3 feet. By the third year some fruit buds will have been formed, and the pruning must then be based on sound principles and not by rule of thumb. Some varieties may require cutting hard for another season because of their indifferent growth, while others nearly always demand hard pruning because of their precocity to fruit. As examples of the former, Red Astrachan and Worcester Pearmain in Apples and Jargonelle in Pears may be quoted, while Lord Suffield, Potts' Seedling and Stirling Castle in Apples, with Williams' Bon Chrétien and Beurré d'Amanlis in Pears, may be named for the latter class.

A moderate grower will only require shortening to a bud which points in the direction you wish the future branch to take. The shoots must not be left too long, leaving only buds that will break and form fruiting spurs along the branches. Some trees which make long sappy growths and do not mature will require root-pruning, especially on clays or where the subsoil is clayey. This should be done not later than November, to permit the formation of root fibres before hard weather sets in. Cut all roots off as close to the bole as possible that strike downwards; those that grow more or less horizontally should be brought to the surface and notched at intervals to encourage the production of fibres. In exposed positions staking will be necessary, and a mulching of good manure to reduce evaporation and to supply food constituents will complete the work.

When a tree has become thoroughly established and is cropping well, the object in pruning will be to keep all branches free from each other, those that cross being cut out close to the main branch. Instead of cutting the ends off established trees yearly, a better system where growths are crowded is to remove a branch entirely, as this not only admits sunshine but adds a natural impetus to the tree. When the ends are cut off annually, a mass of wood is produced which obstructs light and air from the centre of the tree and causes the lower fruiting spurs to become useless. Very old trees can be treated on similar lines to the above, but the operation must be carried out gradually, as if done at once the tree produces too much wood. The removal of dead wood and spray from the middle should be done the first year; the subsequent thinning being left to the discretion of the pruner, always remembering that the most active growth is at the end of the branches. The pruning of old trees demands careful judgment, and must not be done in any offhand manner.

Summer pruning has come into practice during recent years amongst

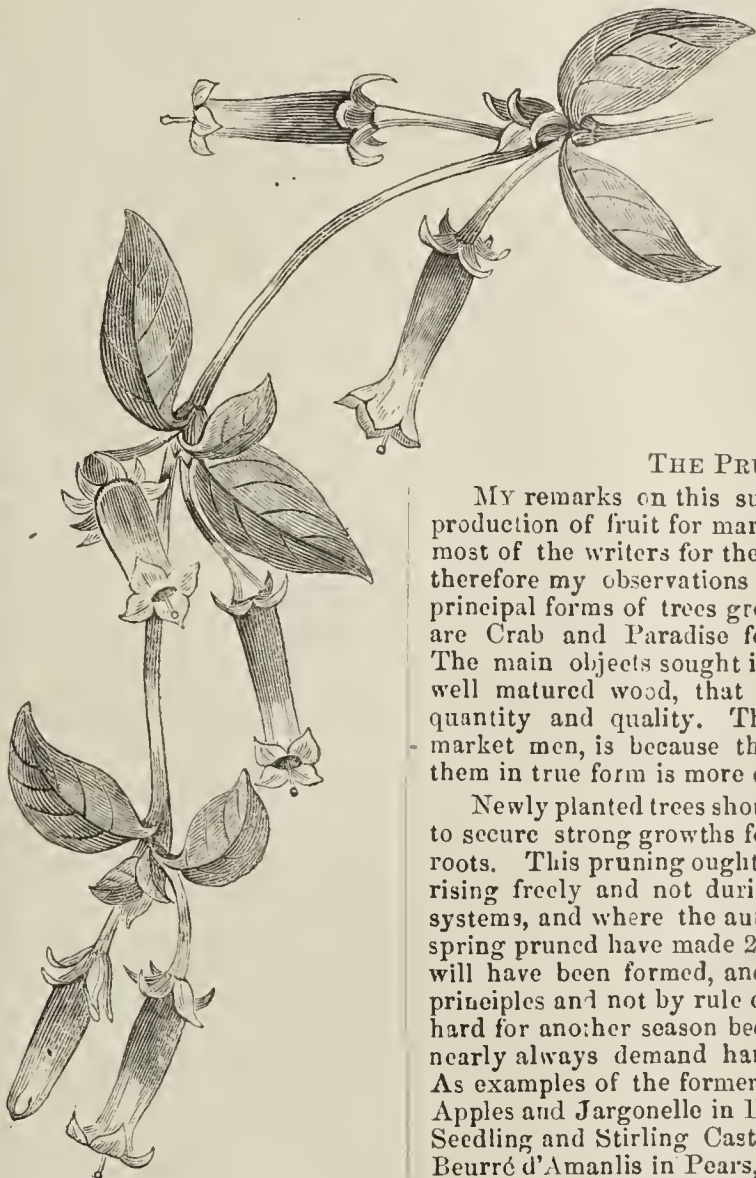


FIG. 83.—MANETTIA BICOLOR.

market growers, and if carried out systematically produces good results. It should be done in August, cutting back lateral growths to five or six buds, doing half the tree at one time and the remainder a fortnight later. On no account cut back the leaders, as these will take up the superfluous sap that was intended for the laterals. Summer pruning is best done on very luxuriant trees because, compared to winter pruning, it has a weakening effect on trees, as growth is cut away that has not fulfilled its work according to natural laws.

All pruning is best done with a strong sharp knife. The cuts must be short and clean and on the opposite side of the branch to which the bud is situated. The standard tree pruner is very efficacious in its work and is useful for large trees. It will cut branches 2 inches in thickness; any above that thickness are best sawn off, and afterwards pared with the knife. Secateurs should not be used for Apples and Pears as they often leave a rough surface, which is conducive to insects and canker.—F. K. D., *Cheshire*.

ST. BRIDGET ANEMONES.

AFTER the frost of November 19th and 22nd, when we registered 8° and 18° of frost respectively, outdoor flowers were more highly appreciated. On the 30th ult. we picked a few fine flowers of St. Bridget Anemones from a sheltered border. Considering that the hardy plants are so easy to cultivate it is surprising they are so seldom seen in gardens. The wealth of flowers they supply for cutting, besides the show they make when planted in beds or borders, should insure them greater popularity than they at present enjoy. They are very graceful for dinner table decorations, especially the scarlet colours. As a rule they carry a little foliage well up the stems, which completes the effect and saves any "foreign foliage" being used in the arrangement.

We grow these Anemones extensively and they thrive luxuriantly. Our soil is very stiff and clayey, and as a rule the rainfall is excessive, this year being no exception. As the seeds are woolly they must be mixed with sand to separate them when sowing. A bed of seedlings sown on March 26th has proved valuable in supplying some fine bunches of flowers for about two months before the wintry weather came. The seeds were sown broadcast on a bed of the ordinary garden soil and covered with light sandy soil. They germinated freely, and the light soil kept any surface cracks filled up during dry weather, thus keeping the main body of soil always moist. We do not disturb the seedlings the first year. We then lift them in clumps and plant them in mixed borders. After flowering and ripening again they can be lifted and separated singly.

I have seen in a seedsman's catalogue that the tubers are not worth saving, but I would prefer to retain the old roots. We planted a large border of them in rows, 18 inches apart, about the latter end of September, for spring and early summer flower. Between the rows a late sowing of Shirley Poppies is made, and by the time these need the room the Anemones can be lifted and dried. With a few plants a good supply of seed may be saved from selected sorts in dry weather, and by this means the stock may be rapidly increased.—S., JUNIOR.

— WEST AUSTRALIAN FLORA.—At a meeting of the Linnean Society on the 17th November Mr. S. Le M. Moore, F.L.S., read a paper entitled "The Botanical Results of a Journey into the Interior of Western Australia; with some Observations on the Nature and Relations of the Desert Flora, and on the probable Origin of the Australian Flora as a whole." The author briefly sketched the physical and botanical features of the West Australian desert, indicating the parallel of 30° S. as, at least in the Coolgardie district, the dividing line between two sub-floras. Statistics of the desert flora were, says a contemporary, then given. These comprise 867 known species, of which 860 are phanerogams, referable to 319 genera, distributed among seventy-three natural orders. Of the Flora 58 per cent. consist of species ranged under eight orders, with Compositæ and Leguminosæ heading the list, leaving 42 per cent. to be shared between the remaining sixty-five orders. The author disbelieved the current theory of Scandinavian predominance; and the prevalence in Eastern Australia of forms of Indo-Malayan facies was held to be due, in great measure, not to immigration, but to descent from the primitive tertiary Flora. Moreover, the balance of exchange between Indo-Malaya and Australia in favour of the former area was considered as coming under the doctrine of chances, and not as implying any inherent superiority of the one Flora over the other. While in Europe the Australian—i.e., the xerophilous—element was, owing to change in climate, eliminated in favour of the present hygrophilous vegetation, in Eastern Australia the conditions remained as they were in earlier tertiary times until desiccation set in. He held that this desiccation dates from an earlier period in Western Australia; and that this, together with the isolation of the western portion of the continent in secondary times by a sea, and later by stretches of desert, explains the floristic difference between the two halves of Australia.

TRADE CATALOGUES RECEIVED.

- L. Botelberge, Melle, Gand.—*Plants*.
- J. Carter & Co., High Holborn.—*Seeds*.
- Dicksons & Co., Waterloo Place, Edinburgh.—*Forest Trees*.
- C. Lorenz, Erfurt.—*Seeds*.
- Otto Putz, Erfurt.—*Seeds*.
- J. R. Pearson & Sons, Chilwell, Notts.—*Chrysanthemums*.
- Sutton & Sons, Reading.—*Seeds*.



HARDY FRUIT GARDEN.

Winter Pruning Raspberries.—The old canes of Raspberries having now completed any service they may render to the stools during autumn, can be cut down level with the soil. At the same time the comparatively weak canes of the current season may also be dispensed with, leaving four to six of the strongest for tying-in. These will furnish the succeeding year's crop. There is no advantage in crowding in a number of canes. Six is the largest number which even the strongest and most vigorous of stools are able to support. The extreme tips of the canes, where the wood is weak and comparatively unripe, may be shortened to the height of the stakes or trellises.

Gooseberries.—The pruning of Gooseberries is often deferred until spring owing to the ravages of birds among the buds during winter. There is, however, a method of preventing their attacks. This consists of syringing the trees or bushes with a solution formed from quassia chips and soft soap, then thoroughly dusting them with lime or soot, which, adhering, renders the buds distasteful to the birds. The dressing has also the advantage of benefiting the bushes, cleansing the bark of insect pests or mossy growths, which frequently become established on the lower limbs. Gooseberries, as free growing bushes, should not be spur-pruned, but have a fair proportion of young wood retained every year all over the bushes. The winter pruning consists, therefore, in simply thinning out branches and shoots which have become intermingled, crowding the centres and growing low down to the ground. This regulation of the growths will secure shapely trees, and ought to be more or less practised each year. Good crops will result, as the Gooseberry bears freely from young and vigorous wood.

Gooseberries as cordons in the open or trained against walls require a formal arrangement of branches, which must be spur-pruned each year. Originate the branches a foot apart if one plant is to carry several, or place single-stemmed plants the same distance. Grow them as upright cordons. Summer pruning must be resorted to for the admittance of light to the fruit for perfecting it. At the winter pruning shorten the summer-pruned shoots to two buds. The leading growth of each cordon must also be slightly shortened until the full extent of space is filled up. Birds, as a rule, do not attack these trees to the same extent as bushes, but should they do so, the same methods of prevention may be adopted.

Red and White Currants.—In whatever form these are grown, as bushes, or cordons on walls and trellises, the same style of pruning is required by them—namely, spur pruning. Main branches must be originated, five or six to each bush, or a foot apart as cordons. Practising summer pruning reduces the foliage and benefits the fruit, also plumps up the basal buds. The winter pruning may be commenced as soon as the leaves fall, shortening or spurring each shoot to two or three buds. Leave the leader about 10 inches long, but when the space is filled closely shorten. Sucker growths from the base ought not to be allowed to remain unless new branches are required, when a few of the strongest may be utilised for that purpose in the case of bushes. Some bushes, however, are clear stemmed and do not throw up suckers. From these new branches, when needed, must be originated as low as possible.

Black Currants.—The pruning of Black Currants is simple if thoroughly well understood. Spur pruning is not permissible. The best crops are secured from young wood. The stronger this is the better if well ripened. As a general rule the old bearing branches may be cut out annually, together with any old wood encumbering the bushes. The aim must be to secure an ample supply of young wood with a well regulated bush.

The greatest enemy to Black Currants is the mite, which attacks the interior of the buds, causing them to swell unusually large. Shoots containing such ought to be cut off and burnt as one means of freeing the bushes of the pest, but badly attacked trees must be dug up and burnt. Plant fresh clean stock in another part of the garden.

Manuring Fruit Trees.—The majority of trees and bushes which are in constant bearing require frequent, if not annual, dressings of natural or artificial manures. Good decomposed farmyard manure cannot well be dispensed with. As a top-dressing for Raspberries, Currants, and Gooseberries it is invaluable. The virtues in it are washed down to the roots and become available as food, which the young roots can absorb. As it enriches the surface soil the roots will ramify therein for the food and moisture they require, instead of descending into the subsoil and making gross growth.

Young trees making wood and not yet arrived at a fruitful stage do not need additional food in the soil. Older trees well established and productive may well be assisted judiciously to maintain their character by applying some suitable top-dressing, according to the demands which the condition of the trees indicate. It is not necessary to apply nitrogen specially at this season of the year, but two parts of steamed bonemeal with one part of kainit forms a good mixture to apply now. The bonemeal will supply the phosphate, and the kainit potash. Spread the mixture over

the roots, 4 ozs. to the square yard. If plenty of wood ashes are obtainable, a dressing of them will supply potash. Basic slag, 4 ozs. to the square yard, is good where lime is deficient in the soil. It is a phosphatic manure, but also contains lime. In addition to the artificial, decomposed manure may be used as a top-dressing, and liquid manure occasionally.

FRUIT FORCING.

Cucumbers.—The weather has been mild and at times bright, so that the growth has not suffered as it does when the days are cold and the sun obscured for lengthened periods. Cucumbers like light, heat, and moisture; the glass should be kept clean both inside and outside. Add a little soil over the roots as they protrude through the sides of the ridges or hillocks, using warmed sweet soil, and moderately moist. A few sweetened horse droppings sprinkled on the surface of the bed occasionally will attract the roots and supply them with food. Supply water only when the soil is getting dry, then afford sufficient to moisten it through to the drainage. Damping the paths and sides of the bed and house will be sufficient to maintain a genial atmosphere if it be attended to in the morning and afternoon of fine days. Remove surplus fruits as they appear, also tendrils and male blossoms, unless they are required for impregnating the fruit-bearing flowers. Stopping and thinning will not be much required, but it must not be neglected, as crowding is the sure precursor of evil consequences. Tie in the growths as necessary, and do not overcrop the plants. Red spider and white fly are sometimes troublesome, but will succumb to the fumes of sulphur. Green and black aphides, with thrips, may be destroyed by dusting with tobacco powder, vaporisation with nicotine, or fumigation with tobacco paper.

Pines.—We again direct attention to the necessity of making preparations at once for producing ripe fruit during May and June. Black Jamaica, Charlotte Rothschild, and Smooth-leaved Cayenne plants, which, however promising now, failed to show fruit during October and November, will not throw up in time to ripen at the period named. Attention must, therefore, be directed to such as attain perfection in less time, as the Queens, Enville, and Providence varieties. Select at once those plants which have an enlarged base with a tendency to open in the centre, evidence that the fruit will shortly be visible, and place them in a light house or pit, affording brisk bottom heat, say 85° to 90°, a top heat of 60° to 70° at night, 70° to 75° by day artificially, and 10° to 15° more from sun heat. When the external conditions are favourable, a moderate amount of ventilation must be given, and the atmosphere should be genial, syringing the plants once or twice a week, and then very lightly, damping the paths and walls, but not the hot-water pipes, on fine afternoons. Water will be required at the roots about every ten days, but do not supply it until the soil becomes dry, and then in a tepid state, with a little guano (1 oz. per gallon) or some other fertiliser in it, and always copiously, dribbles doing more harm than good.

Peaches and Nectarines.—*Earliest House.*—The trees must not be syringed after the blossoms show colour, but a moderately moist atmosphere should be maintained by damping the paths and borders in the morning and in the early part of the afternoons of bright days. Maintain the temperature at 50° to 55° by day, with an advance from sun heat to 60° to 65°, but not without complete ventilation, 50° being sufficiently high for the night. If the weather is cold and sharp, the temperature may fall to 45°, or during severe frost to 40° at night, which is more advantageous than a higher and drier heat. The house should be freely ventilated when the weather is favourable, especially when the blossoms show the anthers clear of the petals, avoiding cold draughts, however, but admit a little air by the top lights. The temperature must be raised early in the morning to 50°, and be kept between that and 55° through the day, but 55° must not be exceeded by artificial means. A close moist atmosphere favours growth more than the setting of the fruit. Under favourable conditions of climate the pollen is dispersed in golden showers (clearly visible to the naked eye in the sun) when the day is clear and the ventilation has been attended to early, and the "set" is generally a favourable one, even without artificial fertilisation.

Second Early House.—The trees must be started without delay to have ripe fruit in May or early in June according to the variety. Alexander and Early Louise Peaches, with Cardinal and Early Rivers Nectarine, will ripen the fruit in May if now started, but Stirling Castle, Royal George, and Dymond or Grosse Mignonne Peaches, with Stanwick Elruge and Lord Napier Nectarines, started at the same time, will be a month or six weeks later in ripening their fruit. Fire heat should only be employed to keep out frost at night and to insure 50° by day, above which ventilate freely, and close the house at that temperature, except that a little air should be admitted constantly by the top ventilators in close fitting houses. Bring the trees on slowly, not hurrying them in swelling the buds, and if these are abundant rub off those on the under side or at the back of the growths. Sprinkle the trees in the morning and early in the afternoon of fine days only, damping the paths and borders sufficing when the weather is dull. Apply water if necessary to bring the soil into a thoroughly moist condition. Outside borders may be covered with about 3 inches thickness of leaves and litter, but avoid thick and rich coverings, suffice that frost be kept at bay.

Succession Houses.—These cannot be kept too cool after the leaves are all down and the trees have been pruned and dressed. If the roof-lights are fixed, the borders must be carefully examined, and water supplied to keep the soil thoroughly moist. Dryness at the roots during the resting period is a fertile source of the buds falling, and thorough waterings will not do any harm provided the drainage is effective. The lights, however,

should be removed from the roof whilst the trees are at rest. The frosts are never so severe as to injure the wood of trees in good health and profitable use, and the borders become thoroughly moistened by the winter rains and snow, so that they seldom require water until the fruit is taking the first swelling and entering on the stoning process. Trees under fixed roofs seldom have the soil thoroughly moistened, therefore the buds are imperfectly formed, and are cast when they should be developing into blossom.

Wall Cases.—We remove the roof-lights from these directly the leaves are all down, and they remain off until the beginning of March, earlier or later according to the season. The buds are then commencing to swell, some have burst their scales and show the downy integuments that protect the blossoms. Up to that stage they are simply frost-proof, for it is not the buds that suffer from severe frost, but the unripe wood, and that is worse than worthless, as it falls a prey to gum disease. We also defer the pruning of these trees until the spring, which is a light affair, as they are grown on the long pruning system, and all the useless wood is cut out directly the fruit is gathered, so that the wounds heal at once, and the winter pruning is rendered almost nil.

THE BEE-KEEPER.

PROTECTING THE BEES.

It is now midwinter, and the weather up to the present time has been extremely mild and open, similar to the autumn and winter of 1897. But the mean temperature has been even higher than it was then. Whether the mild weather will continue throughout the early months of the new year remains to be seen. We would, however, remind bee-keepers of the necessity of having their bees well protected from the inclemency of the weather, whether it arises from a constant downpour of rain, heavy snowstorms, or severe frost, as one and all may be reasonably expected. If the advice given in previous notes has been duly attended to there will be little danger of the heavy rains doing injury to the bees, as all roofs will have been made thoroughly waterproof.

Bees will also suffer from insufficient coverings, and this is much easier remedied than a leaky roof. Any warm material will answer for this purpose, such as old pieces of carpet or sacking, and if these are not conveniently to hand, several thicknesses of paper may be used with advantage; and if a piece of board is placed on the top of all, and weighted down with a brick, it is surprising the amount of cold bees will withstand with no other covering on the top of the frames. We fear dampness much more than any severe weather we are likely to experience in this country.

On several occasions, and we may say there is not a year passes but what we have examined one or more stocks that have been carelessly covered the previous autumn, either by having no coverings whatever placed on the tops of the frames, or they have been partially removed so that the bees had free access to the roof. When in this condition there is a constant draught through the brood chamber, and the consequence is the bees make little headway. What do the bees invariably do when left in this unsatisfactory condition? If it takes place in the spring they commence comb building downwards from the roof of the hive, and all crevices are carefully filled with propolis. Should it be in the early autumn, which is often the case when the honey has been removed, and the bees have probably been troublesome, they will at once take steps to make the roof air-tight by sealing over all the crevices with propolis. In many instances where the roof of the hive has been made of stout wood and the bees left to take their chance as above have come out well the following spring. But if it is late in the autumn they usually dwindle away and die, although they may have ample stores in their hive.

WARMTH IN STRAW SKEPS.

It is a well-known fact that bees in straw skeps invariably winter well if they were supplied with stores the previous autumn. The reason is not far to seek. They would probably be placed in the skep the previous May or June. In due course it would be filled with comb and honey, and should there be any crevices through which the air could pass they would be thickly filled with propolis. It would be impossible for the careless bee-keeper to expose the top of the comb, as has been shown is often done with the movable frame hive. The bees being thus left to themselves require little attention from the bee-keeper.

If straw skeps are placed in the open air, some protection is necessary. A hood made from Wheat straw is neat, and answers the purpose admirably. This is done by taking sufficient straw to cover the skep, placing the ears evenly together, and holding them firmly with one hand, whilst the short straws are combed out with the other. Fasten the straw tightly together with string or fine wire just beneath the ears, about 6 inches from the top of the straws. Then

open the bundle of straw in the middle and place it on the skep, so that the straw hangs evenly round it; place a hoop of wood or iron tightly round the middle of the hive, and the cover is complete. The ends of the straw hood should be neatly cut, so that they hang a few inches below the floor board, as this will cause the moisture to drop clear of the hive. Hives treated in this manner have a neat appearance, and are quite rainproof. If straw is not conveniently to hand, something should be used to throw the water off, such as an inverted pan or zinc skep.—AN ENGLISH BEE-KEEPER.



.. All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Heavy Gooseberries (J. J.).—Some of the heaviest are: red, *London, Conquering Hero, and *Companion; yellow, *Catharina, Drill, and *Leveller; green, Shiner, Thumper, and Stockwell; white, *Antagonist, Careless, and *Snowdrop. It is better to have a dozen varieties for choice, but the half dozen are indicated by an asterisk.

Frothiness in Cauliflowers (H. P.).—You ask what is meant by the following sentence in the R.H.S. code of rules for judging:—"Cauliflower of medium size, firm, solid, rounded, free from stain or frothiness," or rather of the last word in it. Frothiness is the antithesis of firmness or solidity, though why the word "solid" was added to the word "firm" we scarcely know. By firmness is meant the non-resistance to pressure by the thumb on the close white stainless head, in contradistinction to the yielding of the substance under such pressure as suggestive of sponginess, while in appearance there is a frothy looking surface instead of a close marble-like mass.

Stacking Turf (A Devonshire Reader).—Your turf will be better stacked in the open air than under cover. If the heap is finished off in ridge form little rain will penetrate the mass of soil, and the whole will keep just moist enough to cause the fibre to decay naturally, and during the process be converted into such food as the roots of plants can take up. When turfy soil is kept for a long time under cover it becomes dust dry, and the fibre toughens instead of decaying. There is a wide difference between keeping a supply of soil for present use under cover, and placing a large quantity in such a position which may not be required for use till a year hence.

Forcing Lily of the Valley (S. J.).—You do not say whether your Lily crowns are retarded or ordinary ones. If the former, you may succeed with them, notwithstanding the fluctuating temperatures you propose to subject them to, but you will need to exercise great care in watering during the time they are in a low temperature. If the crowns are ordinary ones—i.e., were lifted from the open air during last autumn, you will court failure by following the course you propose, because, if kept at a temperature of 60° for three weeks, even without bottom heat, at this season of the year, they will start into growth—or rather the flower spikes will start—and in order to develop the flowers, as high, if not a higher temperature, should be maintained to the finish. We should advise you to place the boxes in a cold frame during the three weeks that your house is kept at 60°, and return them to their present position under the stage when you lower the temperature. They will then come on gradually and be benefited by the extra heat given in March. Bottom heat is necessary to start ordinary Lily crowns till January, after that time they come on very well without it in a warm house. The usual practice is to place the crowns in pots, which are plunged in cocoa-nut fibre in a bed well supplied with bottom heat, or to plant the crowns in soil or fibre placed in the bed of a forcing house; but boxes such as you describe do almost as well. The distance you have set the crowns apart in a suitable one. You may perhaps succeed in flowering the crowns again next year, if well attended to, but the flowers, if any, will be small. A better plan would be to plant them in the open air next May, setting them 3 inches apart. Allow them to remain two years, then lift, and select the best crowns for forcing, the smaller ones being again planted in the open air.

Natural Asparagus in December (W. J. G.).—It is not unusual after a dry summer, when the crowns mature early, for fine heads of Asparagus to be produced during mild moist weather in the autumn. We have occasionally gathered more than one fine dish in November, but so far as we recollect have not seen heads such as you have sent gathered from outdoor beds in the middle of December. We do not recognise the small Apple, and rather suspect it is the fruit of the stock, which grew instead of the Apple, that was once inserted in it, but died—an analogous case to some persons growing and pruning Manetti stocks when the Roses inserted in them had vanished.

Young Vine Canes to Displace Old Rods (An Amateur).—There is no reason why you should not cut out the old rods in favour of the young canes, which, being as you describe the size of the finger, wood well ripened, and good plump eyes, ought to bear fruit next year. You do not say how long the canes are, only as "long as you require them to go," which may be that of a 20 feet rafter. We should then not leave the canes longer than one-third, and on that length you will get about eight bunches of Grapes, the laterals or side growths being left about 18 inches apart on both sides of the canes, and alternate to each other. This will give better result in the end than cropping the canes the full length next season. Of course a cane must be continued from the upper part of the new rod next season, and that in turn shortened. The old Vines might bear on the upper portion of the rods for a season.

Repotting Orchids (Youngster).—Had you given us the names of the Orchids about which you inquire we could have told you when to repot them. In large collections of Orchids repotting is going on all the year round, each season bringing its special kinds that need this attention, and everything depends upon the species. You are none the less quite right in not wanting to pull the plants about until February. Indeed, if we had a house that fell to 40° in severe weather we should give up the culture of most Orchids entirely, as only the cooler section can stand this temperature, and it is too low even for them. However, you must make the best of it, and it will be safest to leave them alone for a couple of months yet, perhaps longer; it all depends on what you are growing. If you send along the names of the species we may be able to help you further; at present we can only speak in general terms.

Grubs Eating Cyclamen (Cyclamen, Surrey).—The very fine Cyclamen plant, with remarkably healthy foliage and several hundred flower buds, some developing into flowers, has had the base of the corm eaten away, and the young roots destroyed by the grubs you enclosed. They are the larvæ of the grooved or black Vine weevil (*Otiorhynchus sulcatus*). They are very tenacious of life, as they possess an oily skin, and form an air globule under their bodies by the mouth, so that they resist for a considerable time applications intended for their destruction. The cause of the attack is solely that of the parent weevil depositing eggs in the soil or on the corms. These hatch out the tiny larvæ or grubs, which feed at first on the young roots, and as they gain in size and strength commence feeding on the base of the corms. For attacked plants we do not know of a better plan than turning the plants out of the pots, removing the soil from the base of the corms, and with it the grubs, which, of course, must be destroyed. As a preventive and means of riddance we have found Clibran's mite killer to act effectively on the pest, but it throws the plants back for a time, though they soon recover and are benefited by the application. We have also used Little's soluble phenyle, one part to 480 parts soft water, stopping the holes in the pots, and then supplied the solution so as to flood the soil, and leaving it so for about an hour, then free the drainage. We used clay for stopping the holes from the outside. The worst of the matter is the grubs are not detected until they have devoured the roots and the base of the corms, which cannot be repaired otherwise than by new growths, which takes time, and the plants suffer in consequence.

Lord Napier Nectarine Roots Knotted (J. F. S.).—The roots are not diseased—that is, not affected by any animal or vegetable parasitic pest—but burred, knobs being formed on them, and from these shoots have sprung. This is a peculiarity of some kind of stocks employed for stone fruits, and upon which the trees worked are continually throwing up suckers, and are weakened in consequence. The suckering is commonest on light soils. Light soils should be made quite firm, adding some of a stiffer kind, also calcareous matter. In this way we have grown these fruits on Plum stocks on light gravelly soils, lifting them occasionally, and removing every trace of sucker on the roots. The procedure you have adopted—namely, "lifted the roots from 18 inches to within 6 inches of the surface, relaying in a mixture of turf, burnt refuse, and a liberal dressing of old mortar rubbish," is the correct one. There appears nothing wrong with the growths beyond weakness, due, no doubt, to the deep planting and the suckering propensities of the stock. The bud-dropping may arise from deficiencies of nourishment during the growing season, resulting in imperfect bud formation. The soil appears of a dark vegetable nature, and contains a considerable amount of organic matter with very little lime. The latter will have been supplied in the lime rubbish; still we should apply a dressing of basic slag, 1 lb. per square yard, and point in now, then sprinkle on each square yard 3 ozs. of mineral sulphate of potash and magnesia, and lightly point in. The mineral elements will slowly become available as food to the trees, and in the end prove better than quickly acting fertilisers, for the tree needs steady supplies of nourishment, not flushing into sappy and long-jointed growths. Occasionally lifting such trees, according to their growth, and replanting in firmed soil, is excellent practice. Mulch over the roots in the summer for conserving moisture in the upper layers of soil, and keep the growths scrupulously clean.

Preserving Flowers (Griffin).—We do not know of any better way of pressing wild flowers and preserving their colours than by placing the flowers between sheets of white blotting paper, but we have not always found it necessary to change the paper every day. Some flowers do not retain their colours so well as others, and they should be in the best condition for the purpose when gathered and used. You may find interesting information on preserving the colours and forms of flowers in Burbidge's "Domestic Floriculture" (Blackwood & Sons). If any of our readers would like to describe their successful practice in pressing and preserving flowers we shall be glad to hear from them.

Diseased Apple Branch (C. C. E.).—The branch is blistered at the part diseased, but not swollen as in ordinary canker. There is neither an effort at growth of new bark round the circumference of the wound nor any other indication of the tree resisting the enemy. We did not find any micro-organism in the specimen, but the bark had been removed mostly from round the wound, which precluded our scrutiny to a great extent. The affection is common enough on various Rosaceous shrubs and trees, and is caused by a fungus, but, as before stated, we did not find any trace of it in your specimen. The eggs found beneath the bark appear those of some spider, but we cannot tell pests by eggs, except in well known cases. We should regraft the tree with a free growing variety, or if you prefer the present variety, Duchess of Oldenburg, supply a good dressing of manure and point in lightly, supplementing with some approved fertiliser as a top-dressing early in the spring. Grease-proof paper bands can be had from Messrs. Evans and Allard, Moon Street, Birmingham. One of the best growers of hardy fruit has found a double thickness of brown paper smeared with cart grease at 9s. a cwt. fulfil all his requirements admirably.

Warty Excrescence on Vine Roots (A. R., jun.).—The cause of the nodosities on the roots is root-knot eelworm (*Heterodera radicola*), and so far as we know, the first recorded instance of the pest attacking Vines. The infection is so characteristic, and the eelworm so pronounced in all its stages, that we hope to give illustrations of the attack in an early issue. If you desire to see the pest, crush one of the nodules gently with a knife, and place in a drop of whisky on a glass slide, then tease with the pliers or tweezers of the microscope box, and remove the refuse, leaving the solution on the slide. Examine this with a power of 200 to 300 diameters, and there will come into view eggs, cysts, larvæ, male and female eelworms, such as we propose to illustrate. You say nothing about remedies. The fibres only are affected, not the roots or only the young ones. We advise (1) a good soaking with a solution of Little's soluble phenyle, a wineglassful or 2 fluid ozs. to 3 gallons of water, applying through a rose watering can, so as to sink evenly and surely into the soil, using about 3 gallons of the solution per square yard. Or (2) 1 lb. freshly burned best chalk lime slaked, left on the surface, say for a night, then add ½ lb. kainit, and point in as deeply as the roots allow without disturbing them too much, and leave for the winter. The quantities are named per square yard.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (G. P. S.).—1, Cox's Orange Pippin; 2, Mannington's Pearmain. (W. S.).—Cannot be identified: probably a local seedling. It is better in appearance than it is in quality. (S. C.).—1, Court Pendu Plat; 2, Golden Noble; 3, Allen's Everlasting; 4, Winter Greening; 5, Alfriston; 6, Warner's King. (Cedo Nulli).—1, Josephine de Malines; 2, Althorpe Crassane. (J. C.).—Probably Warner's King.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (C. T.).—1, Libocedrus decurrens; 2, a dwarf variety of the common Spruce Fir (*Picea excelsa*), known in gardens as elegans. (P. L. S.).—1, Kentia Belmoreana; 2, Davallia Mooreana; 3, D. canariensis. (G. W. C.).—A variety of *Odontoglossum Ruckertianum*.

COVENT GARDEN MARKET.—DEC. 21ST.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, ½ sieve ...	1	3 to 3 6	Lemons, case ...	30	0 to 60 0
Cobs ...	45	0 50 0	St. Michael's Pines, each	2	6 5 0
Grapes, lb. ...	0	10 1 6			

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0	0 to 0 0	Mustard and Cress, punnet	0	2 to 0 4
Beans, ½ sieve ...	0	0 0 0	Onions, bushel ...	3	6 4 0
Beet, Red, doz. ...	1	0 0 0	Parsley, doz. bnchs. ...	2	0 3 0
Carrots, bunch ...	0	3 0 4	Parsnips, doz. ...	1	0 0 0
Cauliflowers, doz. ...	2	0 3 0	Potatoes, cwt. ...	2	0 4 0
Celery, bundle ...	1	0 0 0	Salsafy, bundle ...	1	0 0 0
Coleworts, doz. bnchs. ...	2	0 4 0	Scorzonera, bundle ...	1	6 0 0
Cucumbers ...	0	4 0 8	Seakale, basket ...	1	6 1 0
Endive, doz. ...	1	3 1 6	Shallots, lb. ...	0	3 0 0
Herbs, bunch ...	0	3 0 0	Spinach, pad ...	0	0 0 0
Leeks, bunch ...	0	2 0 0	Sprouts, ½ sieve ...	1	6 1 9
Lettuce, doz. ...	1	3 0 0	Tomatoes, lb. ...	0	4 0 9
Mushrooms, lb. ...	0	6 8	Turnips, bunch ...	0	3 0 4

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6	0 to 36 0	Ficus elastica, each ...	1	0 to 7 0
Aspidistra, doz. ...	18	0 36 0	Foliage plants, var., each	1	0 5 0
Aspidistra, specimen ...	5	0 10 6	Lilium Harrisii, doz. ...	24	0 36 0
Crotons, doz. ...	18	0 24 0	Lycopodiums, doz. ...	3	0 4 0
Dracæna, var., doz. ...	12	0 30 0	Marguerite Daisy, doz. ...	9	0 12 0
Dracæna viridis, doz. ...	9	0 18 0	Myrtles, doz. ...	6	0 9 0
Erica various, doz. ...	9	0 24 0	Palms, in var., each ...	1	0 15 0
Euonymus, var., doz. ...	6	0 18 0	„ specimens ...	21	0 63 0
Evergreens, var., doz. ...	4	0 18 0	Pelargoniums, scarlet, doz. ...	8	0 12 0
Ferns, var., doz. ...	4	0 18 0	Solanums, doz. ...	6	0 12 0
„ small, 100 ...	4	0 8 0			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchids in variety.

	s. d.	s. d.		s. d.	s. d.
Arums ...	8	0 to 12 0	Lily of the Valley, 12 sprays	1	0 to 2 0
Asparagus, Fern, bunch ...	2	0 2 6	Marguerites, doz. bnchs. ...	6	0 8 0
Azalea, white, 12 sprays	1	0 1 3	Maidenhair Fern, doz. bnchs. ...	6	0 8 0
Bouvardias, bunch ...	0	4 0 6	Narcissus, doz. bnchs. ...	5	0 6 0
Carnations, 12 blooms ...	2	0 3 0	Oreids, var., doz. blooms	1	6 9 0
Chrysanthemums, per beh. specimen	0	6 2 0	Pelargoniums, doz. bnchs. ...	6	0 10 0
„ blooms, per doz. ...	4	0 6 0	Poinsettias, doz. blooms ...	12	0 15 0
Eucharis, doz. ...	4	0 6 0	Roses (indoor), doz. ...	2	0 4 0
Gardenias, doz. ...	2	0 3 0	„ Red, doz. ...	6	0 8 0
Geranium, scarlet, doz. bnchs. ...	8	0 12 0	„ Tea, white, doz. ...	3	0 4 0
Lapageria (white) ...	1	6 2 0	„ Yellow, doz. (Perles)	2	0 3 0
„ (red) ...	1	0 1 3	„ Safrano (English) doz. ...	2	0 2 6
Lilium lancifolium, white	3	0 4 0	„ Pink, doz. ...	5	0 6 0
„ pink	3	0 4 0	Smilax, bunch ...	2	6 3 0
„ longiflorum, 12 blooms	8	0 10 0	Violets ...	1	0 2 6
Lilac, bunch ...	5	0 6 0	„ Parme, bunch ...	4	0 6 0



A HUNDRED YEARS AGO.

Yes, indeed; what changes have been made since 1798! What progress in science and art! Indeed, where can be found in any two hundred years so much of importance? Improvements have advanced by giant strides, and the poor human brain can scarcely keep pace with the swift changes on every side.

The oldest society for the improvement of live stock has now completed its hundredth year—years of toil; years of patient labour; years when the struggle just to keep above high water seemed almost impossible; and after all the strivings and anxieties the show is now on so firm a basis that nothing short of the extinction of agriculture could affect its stability.

Smithfield in 1793—Smithfield in 1898. What different pictures arise to the mind's eye. A small inn yard, the first scene of operations, quite big enough for the exhibits. Either the exhibits were not appreciated or the public did not know of the existence of the enterprise, for we find the gate money only put down as £40—not sufficient to meet the prize fund of 50 guineas. Fancy a fat stock show of to-day with a prize list of those dimensions! Why it is

hardly the price of one silver cup. This year we should write fifty with two noughts added, and then not include the centenary medals of gold and silver. The ducal house of Bedford has always been to the fore in matters agricultural, and we find Duke Francis the first President, with that able man Arthur Young as Honorary Secretary. His duties would be rather of a different character from the duties of the present day Secretary. Ah, well! the work was new then, and Arthur Young would have no rules to guide him. He must arrange the lines on which the Show must be conducted, and he was virtually the pioneer of all like gatherings.

How the scheme would be discussed; and how the promoters would wonder if the end they had in view would be attained. The scheme was to give prizes for the best beast fed on grass, hay, Turnips, or Cabbages. For the best beast fed partly on corn or cake (what cake, we wonder?), and for the best sheep fed respectively under these conditions. This is what the Institution says of itself:—"That the service of the Institution be to prove what breeds of cattle give most food for man from given quantities of food for animals."

The exhibitors were expected to state fully what foods had been employed in the feeding of the stock shown. We will warrant one thing, that feeding was not carried to the fine art it is now. Nor do we suppose that the life of an animal from its calfhood to its appearance in the slaughter-house was one long course of preparation, as it is to-day. We said from its calfhood. We must go further back, as the sire and dam too are carefully bred and mated so that they may produce the best possible calf, not just an ordinary one.

We remember hearing our grandfather talk of the first agricultural shows where there was no previous preparation—the best cow or bull was just brought up from the field, cleaned down a bit, and driven off to the ring without further preparation. Animals were shown on their merits then, and owed nothing to extraneous and fancy foods. Herefords appear to have been first in the field, and must have been a favourite breed. Who among us has ever seen a "Longhorn," a breed that has nearly disappeared? and who remembers the old name by which the first Shorthorn went—"Durham Ox?" As children we used to see in our relations' houses many prints of Shorthorns, and one question was, Why Shorthorn? We had never seen a real old Longhorn. Our people were too much devoted to Bates or Booth to tolerate anything so commonplace.

Only one Shorthorn figures in 1808, and in 1809 there was not even one, and it is curious to mark that no classification of breeds of cattle was made before 1808. Then it only lasted till 1817, and was suspended till 1852.

How queerly it reads to us moderns that separate prizes were given to those cattle which had been draught animals!

Sheep were roughly classed as Longwools and Shortwools—none of the bewildering varieties of to-day. All these wonderful crosses of "Down" sheep that now delight us were absent. Many of them had not been invented, and their weights and quality would have considerably astonished the old time shepherds.

We always accord those men the greatest honour who have gallantly breasted the tide. It is easy progress when sailing with wind and tide, and a society is easily managed when funds come in freely and the sun of prosperity shines. Smithfield has seen very dark days, days when there was no prize list offered out of the Society's funds, and when Duke John considered that the show, having answered the purpose for which it had been instituted, had better cease.

Wiser counsels prevailed. The members still held on, though without a president, for three years, and brighter days began to dawn. It is forty-four years since the Prince of Wales, a lad by his father's side, first made his appearance at Smithfield, and this year he is welcomed again as its genial President.

The great and good Albert was always ready to forward by every means in his power all industrial pursuits, and was deeply interested in the home farm at Windsor. His son follows his steps and, as is our noble Queen, a constant exhibitor at our great shows.

WORK ON THE HOME FARM.

Still open weather, fair and mild, so that all work is well forward. By this time all fallows must be ploughed; there is no excuse for any backwardness. Farmers are now turning their attention to old seeds, which will be better for moving. They at least should be ploughed 9 inches deep, and we find the best implement for this work the chilled ploughs with the skim coulters. As this land will be wanted for next year's Potato crop, all manure on it should be well buried, so that rotting with the sod there will be a rich bed for the Potato sets. We should welcome a frost, for nothing so thoroughly pulverises the land and opens up every clod to the beneficent action of sun and air.

We should welcome a frost, too, when we think of the four great pigs which this morning have squealed their last. It seems unnatural weather for pig killing, but the pigs are ready, the bacon chests are getting low, and the garth man wants to be rid of part of his charge. It is a custom with us to supply the labourers with a certain quantity of green bacon as part of their wages. The average for each man is about 30 stones.

The garth man has probably cleared out other of his charges besides the fat pig. Shows for fat cattle and sheep are pretty abundant, but whether the producer gets much or any profit on his Christmas beef is rather a difficult question to answer.

We are thankful to see the watercourses fairly running again, and we are hoping there may be sooner or later some good downfalls of snow to preserve the young Wheats, and to find the wherewithal to raise the terribly low springs.

LIVE STOCK ALMANAC.*

GIVEN a quiet hour, and the Live Stock Almanac for 1899, we want nothing better for amusement and edification. Every possible subject connected with agriculture is treated of, and not by office boys, but by men who have made that particular subject their life study. Of course the horse comes first as an article subject, and when we say that fifteen writers treat of him, his different breeds, his qualifications and achievements, we must allow that he is made an animal of much interest. Then come some memoranda of the various animals classed under the generic name "bos," the best way to rear them from calfhood, the prices they have made when they have reached maturity, and a short account of an ill to which young stock are very subject—i.e., black quarter or black leg. Then come sheep—such a long list, every sort, pure varieties, and all the crosses which appear now to take the public favour the most.

The sportsman is not forgotten, for there is an article on breaking dogs for the gun. We think most sportsmen have their own pet recipe. Tegetmeier exposes the fallacies of poultry farms. Such things cannot succeed on a large scale; they are contrary to every known law of sanitation. Brown treats of the duck industry, which appears to be at present principally confined to the counties of Bucks and Beds. There are pages of useful information touching fairs and markets in the United Kingdom, and lists and addresses of the principal breeders of stock. A capital 1s. worth we say.

OUR LETTER BOX.

American Chaffcutter (*Mrs. P. A. M.*).—We are sorry to say we do not know of a chaffcutter under the above name. There is no mention of such a machine in the report of implements considered worthy of notice exhibited at the Royal Show in June. Possibly some good ironmonger or implement dealer in your nearest town may be able to give you the desired information.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1898. December.	Barometer at 32°, and Sea Level	Hygrometer		Direc- tion of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Tempera- ture.			
		Dry.	Wet.			Max.	Min.	In Sun	On Grass		
		inches	deg.	deg.		deg.	deg.	deg.	deg.	deg.		inches.
Sunday	11	30.512	52.4	50.9	W.	47.0	55.2	52.0	59.2	44.0	—
Monday	12	30.309	52.0	49.1	S.W.	47.9	54.2	50.1	59.2	46.8	—
Tuesday	13	30.417	42.8	40.8	N.	47.9	46.9	42.1	49.6	36.1	—
Wednesday	14	30.272	40.4	38.2	S.W.	45.9	50.9	35.6	51.9	29.9	—
Thursday	15	30.177	43.1	40.7	W.	45.9	48.2	40.7	58.9	35.6	—
Friday	16	30.291	41.4	40.1	S.W.	44.3	52.1	35.6	52.9	30.3	—
Saturday	17	30.291	50.3	50.1	S.W.	45.8	52.8	42.1	55.1	40.3	0.017
		30.324	46.1	44.3		46.4	51.5	42.6	55.3	37.6	0.017

REMARKS.

11th.—Fair, but sunless day; spots of rain after 9 P.M.
12th.—Fair and breezy, with the sun visible at times.
13th.—Fair, but sunless.
14th.—Bright sun all morning; occasional slight rain or drizzle after noon; fine night.
15th.—Bright sun all day, and clear night.
16th.—Overcast throughout.
17th.—Overcast day, with a shower at noon.
Barometer and temperature very high, very little rain, and very little sunshine.—G. J. SYMONS.

* Vinton & Co., 9, New Bridge Street, Ludgate Circus.



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Journal of Horticulture.

THURSDAY, DECEMBER 29, 1898.

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CHRISTMAS TIME IN THE MARKETS.

IN connection with the religious belief of all countries, be they Christian or otherwise, it is the practice to observe several festive seasons in each year. Such times have their value apart from their religious aspect, as they make a welcome break in the monotony of the lives of many, and give great impetus to almost every trade. The great festival of the Anglo-Saxon race is undoubtedly Christmas, and under the genial influence of contagious generosity the most penurious usually catch the spirit of the times, and dive, though perhaps reluctantly, into their well-lined pockets; while others, blessed with more natural generosity, spend freely their hard earnings in bestowing Christmas gifts.

That the commerce of horticulture is largely benefited by the festivities of Christmas is abundantly evident in the markets of all great towns. The wonder sometimes is where the vast amount of materials, of such varying descriptions, can all go. It has become the fashion of late to continually disparage the British trader; want of energy, adaptability, and even perseverance are charges laid against him, in so plausible a manner as to make them generally believed. An intimate acquaintance with the markets and some of the great salesmen would, I think, soon convince many that the "eroakers" fall into the common error of overstating their ease. I have often watched the wholesale agent disposing of enormous consignments of produce in a short time, and have thought surely the commerce of England is safe in the hands of such men. Their whole energies seem concentrated upon the work in hand, and the amount of ingenuity, smartness, and persistency they bring to bear upon it is, I fancy, not excelled by any class of business men.

The exceptionally mild weather of the last two months would doubtless considerably affect prices, as according to present appearances flowers at least must be unusually plentiful. At one time it was thought to be a "great hit" to have plenty of Chrysanthemums at Christmas, and the pioneers in the movement reaped a rich harvest. This

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year, however, the "golden flower" seems to have been almost as plentiful as during November. The men who have a good supply a month hence will fare better than those who finish at Christmas. Good blooms of white varieties, such as Niveus and Princess Victoria, are, however, selling now at good prices. There is no scarcity of such popular bulbous flowering plants as Tulips, Narcissi, and Roman Hyacinths; the latter have this season been sold at abnormally low figures. Well grown Chrysanthemums in small pots are not very plentiful and sell readily at remunerative prices, a point which many growers will doubtless note and act upon. That special Christmas plant, *Solanum capsicastrum*, does not appear to be generally good this year, though some very fine specimens have found their way to Covent Garden during the past week. Heath and Ericas are plentiful and splendidly grown; indeed, it seems almost impossible to conceive how better plants could be grown in such small pots. The specialists who grow them may know nothing of science, but practice has evidently taught them a scientific method of plant manufacture.

Good Callas have not so far been very abundant, and are realising excellent prices. A few days ago I saw a beautiful lot of *Lilium Harrisii*; the method adopted to produce them at this season would be interesting. Can any Journal reader supply it?

It is not in flowers alone that an enormous trade is done at Christmas, both foreign and British plants are to be seen in vast quantities, but good Grapes and Apples command fair prices. A month ago Alicante and Colman Grapes were almost a glut in the markets, but affairs are different now.

What a wonderful trade is done with Holly, Mistletoe, and Spruce trees! Retailers who at other times of the year do not dabble in anything in the nature of plant life, "go in" for these at Christmas, and make their way to the wholesale markets for their supply, where the large stocks on show seem to give a seasonable appearance to the whole affair, as well as to stir up joviality among the thronging crowds. Wreaths, crosses, harps, and other devices formed of Holly seem to be much in demand for various purposes; some are procured for the embellishment of homes and churches, others find their way to the grassy mound or recently disturbed soil of a burial ground under which lie the mortal remains of some dear one, perhaps one who for the first time will be absent from the Christmas family circle. Gone; but not forgotten at this festive time. A pretty custom this; and it shows the tender side of the so-called unemotional Briton. Christmas trees of an infinite variety of sizes are abundant, ranging from the one to be purchased for the modest sixpence, to beautiful specimens for which the "golden sovereign" is asked. What visions of delight the sight of such trees conjure up in the minds of fortunate juveniles; and among all the joys of the season none perhaps leaves a greater impression upon them than the memories which linger around the "Christmas tree."

To those of mature years the present season brings its moments of reflection, for how soon after the Christmas bells have ceased to ring do we enter upon the last few moments of the "dying year."—H. DUNKIN.

How in this midwinter season we see in every direction, both in town and country, anxiety to have some tree or shrub greenery, with or without berries. Whatever may be the fancies and fashions of the Christmas season, there can be no doubt but that the demand for Holly and Mistletoe, for Fir and Laurel, will go on for ever. It is sometimes thought that the demand for cut flowers, so strong and prevalent during the flower-producing months of the year, would some day cease, and leave all the great trade of production thus created high and dry. We need not fear such a result; certainly the British public, with all its variableness, remains, and will remain, just as faithful in its love for flowers, as it has for Holly and Mistletoe, for hundreds of years.

Probably no fact that can be presented serves more strongly than does this midwinter appreciation for greenery to show how deep seated is the love not only for flowers, but for everything that seems to bring the most beautiful of Nature's attributes into our lives. If

Christmas be the season for greenery, it is also to very many the season for flowers, derived from some source. Chrysanthemums may be very much dearer, but Polyanthus Narcissus, Roman Hyacinths, and Van Thol Tulips are very cheap, and for those who can afford the luxury beautiful forced flowers are plentiful. It is doubtless true that some sentimental association with the season assists thus to popularise greenery at Christmas, but it is most certain that real love for it is the great factor in the demand. The public gladly avail themselves of a tradition to enable them to display their leafy affection.—A. DEAN.

"OUR JOURNAL."

SITTING by the fire these long quiet winter evenings one thinks of many things, and as every Thursday brings the *Journal of Horticulture* one's thoughts are filled for a time with it and its teachings in the present, and, being old and grey-headed, the mind goes back over the many years we have had it for a companion and a teacher. We bring up before us past lessons and the past writers who have given us those lessons, and we are sincerely thankful that such a guide came early in our way; a guide so wisely practical, so genial and familiar, and many a humorous incident crops up in connection with it that we somehow or other desire to chronicle. Take this—a recent one. "Look here, my friend," said a merry-eyed though grey-bearded gardener when I complimented him at Shrewsbury last year on an article of his which had appeared in one of your contemporaries, "the thing was spoilt—utterly spoilt; all the spirit was taken out of it. You see, I'd indulged in a little humour. I had poked fun"—and here his eyes fairly glistened—"at the beginning and end of it, at everything and everybody connected with the subject, and you'll hardly believe me, but every blessed word of it was struck out. I'll tell you what it is, there's room for another gardening paper—a paper where we old fellows can let ourselves go, and have a bit of chaff one with another. We don't want to know how to dig Potatoes, nor crock a pot, nor dissect a flower, nor mix chemical manures, nor anything of that sort—we know all about that; but we do like to talk about ourselves, and about our things, and about one another, just as you and I should do when having a crack together like Tam o' Shanter and Soutar Johnnie, only with not so much of the cratur."

So I said, "Well, next time you want to 'kick up your heels' try the *Journal of Horticulture*. The Editor of that paper is a genial soul, and admits more good humour in his paper than any other gardening periodical I know."

"You're right, and so I will. I see the paper sometimes; indeed pretty often. My neighbour and I exchange now and then when its convenient. I'm a reader of —, you know."

Of course, I had to explain about the proprieties and conventionalities of journalism, and the high standard to be attained by every paper, and the excellence of its literary matter, which things were vitalities to an editor, but he rather curtly brushed all those on one side with—

"Oh! yes; I know all about that. To be sure, there must be the high and dry, classically correct articles; abstruse, far-fetched, dry-as-dust subjects discussed in grandiose style, and a lot of scientific prosings; but then, who reads them? I don't, you don't, and I've talked with lots of fellows who never look at them; but let the least bit of humour get in, and we read that, every word of it. And don't we enjoy a good set-to between some of the faddists, specially the 'mummers.' Yes, we do enjoy it, eh! And, I tell you again, we want another that will encourage this."

Our friend's view of things may be a low one, and there may be a selfish taint in it, but all the same it is intensely human; we do all of us like to unbend now and then. We are all drawn to the writer whose personality comes well up in his writings, and it is the humanity, the individuality in the article which draws us with its magnetic power.

Take a few instances. Donald Beaton of the past, and Robert Fenn, and our chaplain, "D., Deal," in the past, and (for which we are devoutly thankful) in the present also, "W. Pea" in the present, and his humorous way of putting things, "The Missus" with her prose poems, which appear all too seldom, the personality and patriarchal wisdom of "An Old Boy," "W. R. Raillem" on Roses, or anything else; even "Amateur" and his blowing up his trees with gunpowder. We read all these writings through, whilst I am afraid we skip a deal of the solidly practical, and then, what we get in "Our Journal" and nowhere else, is a good-humoured set-to, and here our good friend "A. D." comes in, and how we do tumble him about! What a strong personality his is, and how he sets us all right (even me!) and how sublimely he ignores the attacks made upon him, and how courteous he is, and sticks to his subject through thick and thin! What a different man he is when you know him personally!

A friend of mine who had had a sparring bout with him in the papers not long before had him as co-judge at an important meeting. After the judging was over I met him and said, "Well, how did you get on with 'A. D.?' " "Oh, splendidly!" he said, "he has his own peculiar way of looking at things, but he is very courteous, and quickly sees your point of view, and is eminently reasonable; when we differed, we differed not on principles, but on details, and we soon argued the matter out and settled it, and we got quite chummy. He is intensely in earnest and has high ideals, and is a thorough gardener."

This we of the *Journal of Horticulture* know; and though he occasionally gets well shaken up, it is all done so genially that not only is no offence given or taken, but friendship is established.

"Our Journal," then, has done immense service to the cause of horticulture by admitting these genial, instructive discussions. It is these things which make us all friends, and like a happy family; and thus at the end of its jubilee year, "Our Journal" is as firmly fixed (yea, more firmly fixed) in the affections of its readers as it ever was.

As an old reader, I may, perhaps, be allowed the liberty of hoping that it, and its Proprietor and Editor, have had a right merry Christmas, and that they (and we all) may have a happy and prosperous New Year.

I do this because I am also, and only—AN OLD PROVINCIAL.

PRIZES IN KIND.

THERE is a great fashion at the majority of horticultural shows to give silver cups and vases as prizes. Several societies depart from this course, and instead of cups of varying value, more or less handsome and costly timepieces, barometers and such like, afford an equal attraction to all concerned. It is my opinion that if such articles as those noted above were substituted by societies who have clung to the silver cup so tenaciously, and for a long period, they would stimulate an attraction among their patrons and exhibitors much above the present standard.

I am strengthened in this opinion by an interview with a very prominent exhibitor who, relating his successes at some of the late Chrysanthemum shows, seemed as proud of his achievements in securing a clock at one, and an equally useful barometer at another, as he would be if the same value had been won in silver cups. One thing is certain, that while the latter afford an ornamental aspect only in the apartment in which it is usually placed—the gardener's parlour—a handsome clock or a good barometer would combine the ornamental with the useful. An oil or water-colour picture, nicely framed, might prove a cumbersome trophy to carry home, but how many gardeners are there who would not like the choice between a cup and a good picture?

Hard cash, or its equivalent in what has been aptly described as a "bit o' paper," after all is the most satisfactory to the fortunate winner; but societies and the public find prizes in kind can be displayed with the exhibits which have gained them, and thus increase the interest far beyond that in which there is only the card, and perhaps a stranger's name written thereon. I am not advocating a substitution of goods in kind in lieu of cash where the latter is usually offered, but in cases in which silver cups have been so long in vogue.

There are growers who, in the course of a long and successful career, may win several cups. In such instances there cannot be the same interest or value set upon them, and the option to select other articles equivalent in value would, I am sure, be more appreciated by many exhibitors.—W. S.



ODONTOGLOSSUM KRAMERI.

FEW prettier species than this exist, and it is surprising it is not more grown. The purple tint of the segment is very uncommon in the genus, and well set off by the golden yellow centre to the lip and the pure white margins. It requires more heat than the majority of true *Odontoglossums*, and I saw recently some splendid growths hanging from the roof in a house where *Miltonia Roezli* (*Odontoglossum Roezli*) was flourishing. As a rule the temperature of the *Cattleya* house will be found suitable, plenty of atmospheric moisture and a light, but not too sunny, position being desirable. Peat and moss in equal proportions form a good compost, and the plants do well in smallish pans.

CYPRIPEDIUM TRIANOWSKYANUM.

In habit and shape of flower this hybrid resembles a good form of *C. insigne* Chantini, but it is an exceptionally strong grower and profuse flowerer, thriving well in a cool intermediate house. The plant will enjoy a plentiful water supply all the year round, and light damping may be practised during hot weather. The compost may consist of equal parts of good fibry loam, peat, and chopped sphagnum moss, with a liberal addition of crocks and charcoal.—H. R. R.

ORCHIDS AT CHELTENHAM.

ONE of the strong points in favour of Orchid culture is the fact that wherever there is a well-varied collection, there is never a blank



FIG. 84.—CYPRIPEDIUM WILLIAM LLOYD.

period. This applies with a comparatively small assortment, while those owned by enthusiasts and trade specialists make an imposing display at the duldest part of the year. Such is the case at Mr. J. Cypher's, Cheltenham, where there is always a display of Orchids, and December is certainly a good time to pay him a visit. No attempt will be made to give the names of all the Orchids I recently saw flowering at Mr. Cypher's, but a few of them are worthy of special mention.

Cypripediums were most in evidence, and, as usual, the forms of *insigne* were conspicuous. It is now when these are most wanted, and, thanks to the cool treatment given during the hottest part of the year (as arranged in cold frames), the plants invariably flower grandly in December. As most gardeners are aware, these *Cypripediums* last remarkably well either on the plants or in a cut state. The most valuable in this group is a plant of *C. insigne* Sanderæ with three fine blooms, and there is another with one bloom expanded. There are other yellow forms, one bearing six blooms; but these are not so highly esteemed. *C. Leeannum* is, in my opinion, one of the most beautiful. It originated from a cross between *C. insigne* and *C. Spicerianum*, and is now at its best. Flowering at the same time are the grand varieties *superbum*, *giganteum*, and *magnificum*. Other noteworthy *Cypripediums* in flower were *mimosa*, Wm. Lloyd (fig. 84), *Haynaldi-Chamberlainianum*, T. B. Haywood, *Statterianum*, *Pitcherianum*, and *Fascinator*, this by no means exhausting the list available for this time of the year.

Not many years ago *Dendrobium bigibbum* was one of the most conspicuous at Mr. Cypher's during December, but, although still grown, the newer and far more beautiful introduction, *D. phalaenopsis*

Schröderiana, has completely eclipsed it. This remarkable Dendrobe, to which a small span-roofed house is largely devoted, commences to flower in August, and there are enough plants to keep up the display till midwinter, hundreds of flowers in good variety being open when I was there. The plants appear to thrive best established in small pans suspended near the roof in a strong heat.

Very beautiful also were the large numbers of *Oncidium varicosum* Rogersi. The great branching, many-flowered spikes of this pleasing yellow Orchid are most attractive, and this as well as the *Dendrobium* above named ought to be extensively grown in private gardens where choice plants are required for house and table decoration for short periods during the winter.

Of *Cattleya labiata* there were still several good forms; while *Bowringiana* and *C. aurea* were very beautiful. *Vanda coerulea* is extensively grown. A few grand spikes of this lovely Orchid were expanded, and many others were showing, three or more on each single-stemmed plant. They are wintered suspended near the roof in the centre of a large *Cattleya* house, a position that appears to agree with them. I was too early to see the annual display of *Lælia aneeps* and varieties, but the spikes were showing, and by midwinter hundreds of blooms of this deservedly popular Orchid will be open, together with other less showy but serviceable kinds.—W. I.

COMMENTS ON APPLES.

"D. W.'s" surmise (page 458) is perfectly correct when he mentions that my meaning was that Cox's Pomona is a good Apple to grow in Yorkshire, but I am glad I did not put it in that form, or I should not have learned the origin of this free bearing, attractive, and useful variety. I was pleased to read his interesting paragraph *re* Sykehouse Russet, which has also elicited information which I am glad to possess.

I wish to thank Mr. E. Molyneux for his comments on my selection of thirteen varieties of kitchen Apples. I endeavoured from my own experience to make the selection as good as possible for affording generally acceptable fruit over a long period for private or market use. The reason I left Alfriston out of the list and included Ecklinville was that the latter has a rather better saleable coloured skin in this district than Alfriston has, though this is a fine Apple and a good keeper, while the tree grows well with me, and bears freely.

There is a good demand locally for Ecklinville; the fruit is not bruised on a railway journey, as Hull is only five miles from where our fruits are grown. It is all the same well that the weak points of this useful home Apple should be known.

Mr. W. R. Raillem is rather severe in his comments on my selection of thirteen varieties of kitchen Apples. As stated, I mentioned those which I found did well with good culture in Yorkshire, and that the varieties had proved suitable both for private use and for market. I am certain there need be no waste if the fruits are well grown and disposed of when they are ready. I know Bramley's Seedling very well, as I did the late Mr. M. Bramley of Southwell, the raiser, and whose name will pass far into posterity, for his famous Apple has a constitution that will not easily wear out. Like some other varieties it makes rather more wood and foliage in light rich soils than we found suitable for the position. With room, and in time, it would produce crops with which I should find no fault.

I have an idea that Mr. W. R. Raillem only grows Apples to suit his own individual palate. I am pretty certain he is not a gardener, as if he were, and had a large family, with a practical cook, to provide for, he would find that certain varieties would often be asked for—Dumelow's or Wellington, for instance—and would find it was to his advantage to grow acidity in the garden, rather than have to swallow a larger share from the household. If he were asked for certain varieties for sauce, or other special purpose, and instead of supplying them, said they had been done away with because so acid, he might then receive a taste of the household article that would not be altogether pleasing. If he has only himself to study he has, of course, the right to choose, and in all cases to communicate the results of his experience. In one case he confesses he does not know, but assumes that Small's Admirable is not worth attention because it is not in Mr. Bunyard's list, but others are in it which Mr. Raillem does not like, and therefore too much importance must not be attached to his not liking what he does not know. Small's Admirable is in Messrs. Veitch's and other lists. It is described by Messrs. Veitch as being "excellent and bears freely." Forty-seven dishes of it were exhibited at the great Apple Conference at Chiswick, and Mr. Barron describes it in "British Apples" as "first quality, and very free cropping," and it is described in the "Fruit Manual" by the late Dr. Hogg as "excellent and an immense bearer." My experience enables me to agree with those authorities. It is an early, free, and certain bearer in the north-eastern counties of serviceable fruit, not of the

first size, but large enough for use and sale. I do not know whether it would succeed with Mr. Raillem or not, nor does he.

Referring to Lane's Prince Albert being acid, about a fortnight ago I called on a gardener. At the time he was taking in for his employer's table a dish of this Apple for dessert, as it was often appreciated for that purpose as a change from other varieties, so Mr. Raillem is right in suggesting that "others may not agree with him." Northern Dumpling is a similar looking Apple to Tower of Glamis, but not quite so heavy. The tree of the last named is a rather strong and spreading grower; Northern Dumpling is a strong yet compact grower, also very healthy.

For the life of me I cannot understand Mr. W. R. Raillem when he says that his land is too poor to grow such varieties as Gascayne's Seedling, while it will grow that superb variety Cox's Orange Pippin. I know that if Cox's will grow well very few others will fail under good management. I do not know any variety that requires more careful cultivation, or better repays that care, than this prince of dessert Apples. Has Mr. Raillem tried Domino as a kitchen Apple for early use? But I forget, he only wants two for cooking from the "beginning to the end"—Lord Grosvenor and Bramley's. They are good when both are in full bearing, but I should not like to rely on any two Apples. Your critical correspondent evidently possesses a "fixed" taste, and if he attends church (as I hope) might be satisfied with the same two sermons a week, if very good, for eight or nine months.

Mr. Raillem, however, has no doubt attained his object in expressing and eliciting ideas. Very often it is not the paper that is written which is the most valuable, but the discussion and ideas which follow. I am pleased that I have been able to write anything that a gentleman of Mr. W. R. Raillem's capacity should deem worthy of his notice.—G. PICKER.

SALADS.

It is part of the duty of many gardeners to provide salad vegetables the whole year round, and in order to do this effectively a large variety must be grown. Some of the most useful, such as Celery and Beetroot, have already been referred to, and others, including Cucumbers and Tomatoes, requiring glass accommodation, can hardly be dealt with comprehensively in a brief article. Generally speaking, salads do not play an important part on the exhibition table. A few, including those named above, are frequently shown in vegetable collections, and at some shows a separate class is provided for salads. Salads of different kinds are highly appreciated on the tables of the affluent, but among the working section of the community they are not consumed so largely as one would suppose, considering the simplicity of growing, and the ease of making a very palatable dish at a small cost. There seems to be an idea that salads are among the luxuries of the garden, and this mistaken impression leads to the neglect of a most useful section of vegetable, and so far as the million is concerned, the palatable qualities of simple salads are not appreciated, simply because they are unknown. It will perhaps be as well to refer to a selection of useful salad vegetables in rotative order.

CHICORY.

This plant generally belongs to the forcing division, and the blanched growths are much in demand. The culture is simplicity itself. If a piece of friable well-dug ground is selected in April, and the seeds sown in drills a foot asunder, and the seedlings afterwards thinned to 6 inches apart, no further culture is necessary during the growing period beyond an occasional hoeing between the rows. A start may be made in November by taking up a portion of the roots, and packing them closely together in soil in a dark moist atmosphere. The conditions of a Mushroom house are very suitable. By keeping the tops and roots moist the blanched growths will soon appear, and after these are cut the old roots should be removed. In this way a succession of Chicory may be obtained throughout the winter. It is a good plan to make a fresh sowing every spring.

WATERCRESS.

In addition to the indispensable Mustard and Cress, that is so accommodating and common as to need no cultural reference, good crisp Watercress is a favourite salad. Though an aquatic, water is not absolutely necessary for its culture, and if sown in a moist position in the garden thinly in drills about a foot apart good Cress may be obtained. The plants should be thinned to about 6 inches apart when large enough, and water be applied in times of drought, otherwise the Cress will be hard and tough. The strongest shoots must be picked for use in a careful manner, and the plants will then keep through the winter. There is, however, no Cress like that grown in a clear running stream of spring water, and where such accommodation exists the trouble of sowing or planting, and care after in keeping the growth clean and free from obnoxious weeds, is amply repaid by the quantity of crisp good flavoured Cress that may be obtained. Under

these conditions Watercress culture is a commercial enterprise, and is remunerative to many who have proper facilities for supplying the markets.

ENDIVE.

This must be placed among the most useful of garden salads, as not only does it play an important part during the summer, but is mainly depended upon for the winter supply. Among the best sorts for providing a succession are the Improved Round-leaved Batavian, Green Moss Curled, and White Moss Curled.

For the winter supply seed ought to be sown at the beginning and end of July or early in August, and the plants be put out on a well-prepared border so as to encourage strong vigorous growth. Lift plants in October with balls of earth attached, and replant closely together in cold frames. Abundance of air is needed to prevent damping, and rain must be kept out. Protective material will be necessary during severe frost, but any coddling or artificial heat is detrimental. By lifting the plants in small quantities, and placing in the dark in a Mushroom house, keeping them moist at the roots, the growth will blanch quickly, and be of crisp tender flavour, suitable for salad. Though frames are the best for the accommodation of the plants they may be kept safely in soil in dry sheds where frost can be excluded. By growing sufficient plants, and exercising care in storing and blanching, a supply of Endive may be maintained throughout the winter.

LETTUCE.

The cultivation of Lettuce is an everyday process with gardeners, and the details are simple. To keep up a constant supply of this indispensable salad is a matter requiring forethought in sowing and planting, as well as care in the selection of varieties. By following simple rules Lettuce may be obtained during a greater part of the year. To do this, sowings of the hardiest sorts, such as Black-seeded Bath Cos and Hardy Hammersmith, should be made in August, and the plants either be put in a cold frame or be planted on a sheltered border where they can be protected in the event of severe weather. For wintering in frames the Cabbage varieties are preferable, being of more compact habit. For the supply of plants early the following season two methods are adopted. The first is to make a sowing of a compact-growing Cabbage variety such as Continuity in September in a cold frame. If these are protected from frost during the winter they will keep in good condition and be ready for planting in the spring. The second method is to sow the same variety or Commodore Nutt over a gentle bottom heat in February, growing a portion in heated frames, and planting others out when the weather permits. The next sowings will be made outdoors periodically as required, but small and frequent plantings are better than large breadths, as in hot dry weather the greater portion may be useless through running to seed. Cos varieties should be transplanted, but if thin sowings are made of the Cabbage sorts towards the middle of the summer they may be left to grow in the seed bed. Well-worked ground that has been manured for a previous crop suits Lettuce well. The banks thrown up in the formation of Celery trenches are ideal places for growing Cos Lettuce.

RADISHES.

A Radish to be good should be grown quickly, otherwise it will not possess a crisp mild flavour, and frequent sowings must be made if a constant supply is required. A hotbed frame is necessary for the earliest sowings, which are made in January and onward for succession. For this purpose such sorts as Wood's Frame and Early Round Forcing are suitable. From the end of February till September make successional thin sowings in friable soil, and during the hottest part of the summer choose a rather shady border, and an occasional application of liquid manure will be found beneficial. There are several

good varieties for general purposes, including French Breakfast and Scarlet and White Turnip. A sowing of China Rose in September will maintain the supply through the winter.—GROWER AND JUDGE.

PRUNING SHRUBS.

SHRUBS are pruned in various ways, but not always the best manner of doing the work is chosen. Frequently bushes are pruned in a too formal way. To see a beautiful evergreen cut into shape as if forming a hedge is to destroy its individuality. Flowering shrubs are practically spoiled by severe pruning into compact shapes, because the young growths which would produce the flowers are cut away. Regularly shaped bushes and trees may easily be secured with both evergreen and deciduous species when more rational methods are carried out.

A considerable amount of pruning is rendered necessary by the evil of planting too thickly in the first instance. Shrubs ought to be so planted that they have proper room for extension on all sides. If



Photo by H. Stokes,

Birmingham.

FIG. 85.—PLEASURE GROUNDS AT THE GROVE. (See page 496.)

not, it is clear they cannot grow in a well balanced form. Under favourable circumstances they do so, and need little pruning. That which is really necessary consists simply of equalising the outline by cutting back an extra vigorous shoot or branch. This should be done without leaving awkward gaps or destroying the contour of any particular tree or bush.

The demands on free-growing evergreen shrubs for Christmas decoration may be met by judicious pruning, thinning out crowded parts, and reducing long shoots. These can all be removed, as a rule, without making the cuts unduly prominent. Formally fashioned shrubs are not nearly so useful for furnishing material adapted for decoration as are free-growing specimens. It is almost impossible to secure from them anything further than mere tips, which are invariably cut with the shears. Long lengths of Ivy ought to be cut with the knife, as this is not the season for cutting Ivy closely back.—E. D. S.

—AKEBIA QUINATA.—There is a plant growing here (near Bristol) in front of the potting shed, facing south. It was planted in the spring of 1881, but I am not so fortunate with it as Mr. Molyneux is with his. It is quite hardy, and produces beautiful foliage, but only a few flowers yearly, although the shoots that make their way under the tiles bear them freely enough. The flowers there, owing to the semi-darkness in which they are growing, are of a lighter colour than those produced outside, and much finer.—D. W.



WEATHER IN LONDON.—The weather in London during the Christmas holidays has met with the approval of almost everyone. On Thursday, Friday, and Saturday mornings there was a sharp white frost, but the afternoon of the latter day brought a change to milder weather. Christmas was bright and mild, with very slight rain during the evening and the early hours of Monday morning, which day was dull but mild. Tuesday was wet, and Wednesday bright and rather cold.

WEATHER IN THE NORTH.—There has been rain every day or night during the past week; very frequently boisterous winds, chiefly from the west, and but few gleams of watery sunshine. Christmas day was showery and cold, especially in the latter part. The two following nights were very windy and wet, and Tuesday morning, with a very low barometer, showed no sign of change.—B. D., *S. Perthshire*.

JASMINUM NUDIFLORUM.—The present mild weather prevailing suits the expansion of the pretty yellow flowers of the winter-flowering Jasmine. This climber, which is well adapted for ornamenting walls and fences, blooms on the leafless shoots produced the previous summer. In trimming up climbing plants, the long shoots of the Jasmine ought to be preserved, as they invariably bloom the entire length. Sometimes it forms a boundary hedge, and is rather ruthlessly shortened back, but even on the few inches of stem left, flowers open and stud the fence with yellow stars. All through the mild open weather of winter the plant is attractive.—E.

KEW SEEDS.—The list of seeds for distribution from the Royal Gardens, Kew, is a most extensive one, and will be of value to many Kew correspondents. The introductory note says, "The following is a list of seeds of hardy herbaceous annual and perennial plants, and of hardy trees and shrubs, which for the most part have ripened at Kew during the year 1898. These seeds are not sold to the general public, but are available for exchange with Colonial, Indian, and foreign botanic gardens, as well as with regular correspondents of Kew. No application, except from remote Colonial possessions, can be entertained after the end of March."

ROYAL GARDENERS' ORPHAN FUND.—A meeting was held on Tuesday, Wm. Marshall, Esq., in the chair. After the usual routine the Secretary announced the receipt of the following special donations:—Altrincham Gardeners' Society, £15 10s.; Scottish Horticultural Association, £15; Canterbury Hospital and Charities Fête, £5; H. Herbst, Esq., Richmond, proceeds of box, £5; Chislehurst Gardeners' Society, £3 14s.; Penshurst Gardeners' Society, £3 3s.; Mr. Selway, Betteshanger, £2 10s.; and several others of smaller amounts. The nomination forms were received, there being nineteen applications, who were found eligible, and put on the list. The election of officers for the ensuing year was proceeded with, there being four retiring members, whose places have to be filled. The Secretary, Mr. Barron, announced that he would not seek re-election on this occasion, on account of the unsatisfactory state of his health. The Committee expressed much regret at the loss of Mr. Barron's services, and appointed a sub-Committee to make arrangements for the appointment of a new Secretary.

CATALOGUE OF THE LINDLEY LIBRARY.—This much-needed work is completed, and can be obtained post free from the Royal Horticultural Society for 2s. 6d. It consists of 160 closely, yet clearly, printed pages. As stated in the preface, a portion of the profits resulting from the great horticultural exhibition in 1866 were devoted to the purchase of the library of the late Dr. Lindley, which was handed over by the Exhibition Committee to a body of Trustees for the benefit of the Fellows of the Royal Horticultural Society and other persons. By the terms of the Trust Deed it was arranged that the library should not be alienated from the Society so long as its headquarters remain in or near the metropolis, and the numerous books are now arranged in the large room of the Society at 117, Victoria Street, Westminster. The present Trustees of the Lindley Library are, as stated in the catalogue, William Carruthers, F.R.S.; Phillip Crowley, Treasurer R.H.S.; Maxwell T. Masters, F.R.S., Secretary to the Botanical Congress of 1866; John T. Bennett-Pöe, M.A., H. J. Veitch, F.L.S., and the Rev. W. Wilks, M.A., Secretary to the Royal Horticultural Society.

GARDENING APPOINTMENT.—Mr. James Fulton, late gardener at Glenstal Castle, Limerick, has been appointed head gardener to W. S. Gilbert, Esq., Grims Dyke, Harrow Weald, Middlesex.

CRATÆGUS PYRACANTHA.—There are few people who see this evergreen plant adorning the walls of villas, cottages, or mansions who do not admire its beautiful bunches of handsome scarlet berries. At this season of the year they are peculiarly attractive, because of the lack of bright colours from flowering plants and the general dullness of the weather.—S.

THE DEES PUBLIC PARK, WALLSEND.—The interesting ceremony of cutting the first sod of the park presented to Wallsend by R. R. Dees, Esq., was performed by G. B. Hunter, Esq., on Friday afternoon, the 23rd inst., in the presence of a representative gathering. Mr. J. O'Hanlon, Chairman of the Urban District Council, introduced Mr. Hunter, who proceeded vigorously to his task, after which an adjournment was made for tea and speeches. The work of laying out the park from plans submitted by Messrs. J. Cheal & Sons is entrusted to Mr. A. E. Raisbeck, late head gardener, Benton Hall, Newcastle-on-Tyne, who has been appointed Superintendent.—SOUTH NORTHUMBRIAN.

VELTHA.—If Messrs. Wood & Sons substantiate their claims as set forth in an imposing prospectus that the product under the above name will destroy every form of fungoid disease, including resting spores, also increase the yield of Wheat and impart healthfulness to various plants, they will be entitled to a prominent place in the list of public benefactors. We do not for a moment suggest that the article may not be both a fungicide and fertiliser, as we know that more than one application combines, to some degree, properties of destructiveness and productiveness in the direction indicated. We shall only be too glad if in extended trials Veltha is found to possess a maximum of potency as a supporter of plants and crops and an annihilator of their fungoid enemies.

TRAPPING BULLFINCHES.—On page 437 "C. W." asks for information on trapping bullfinches. As I have so often advised catching them instead of shooting them and damaging trees, I will gladly give any information in the Journal. I may first say that it is far better to illustrate the process with a bird and cage than describe it on paper. I have carried my cage and bird for this purpose scores, if not hundreds, of miles in Warwickshire to show the villagers at my lectures on horticultural subjects how to carry it out and make their own traps. I am well aware that some may object to such advice, but I am prepared to argue the matter. The trap-cage I use is made on a different principle from any I have seen. Instead of the trap part being on the top it is in front of the call-bird. And there are several advantages in this. Then instead of being painted red or stained it is painted green. The treadle is also a common stick instead of a small board. In front of the cage a common bough is fixed, on which a bird first alights, and, seeing no danger ahead, and plenty of natural food inside the cage—berries of various kinds, dock seed, or lettuce, in it goes, and the lid closes down. I have caught over fifty this last autumn in the same spot, and many hundreds more. I have not time to devote now to fuller details.—JAMES HIAM, *Lecturer to the Warwickshire County Council*.

MAKING A PEACH BORDER.—I should very much like to have criticisms of practical Peach growers on the following. Very recently a rather young gardener who is about to plant a Peach house submitted to me the following recipe for compost, with a request for my opinion as to its suitability. I gave it freely and not approvingly. But what I advised is beside the question now, as I ask for other opinions, and at this dull time of the year the very important subject of making borders for Peach and Nectarine trees in houses may well merit notice. The recipe was as follows—ten loads of turfy loam, one ditto of fresh horse droppings, one ditto of wood ashes, two ditto of old mortar rubbish, one of broken charcoal, and one of a Vine manure made of bone shavings, hoof parings, and similar not readily soluble matter. I thought the recipe one of great elaboration, and that the gardener in question was too anxious to secure great results too soon. However, what my estimate of the recipe was I leave with the Editor, not for publication, that he may be able to judge for himself after he has learnt from capable correspondents what theirs are. Of course he is quite capable of judging for himself without such opinions, but it is the diverse opinions of others one wishes to elicit. Specially is it desirable to have expressed statements as to just what materials have been found productive of the best results by gardeners. It may be found that success in Peach production has resulted with very diverse materials. Apart from these, it is important that the consistency, or otherwise, of Peach borders should be dealt with.—A. D

— **OXALIS TUBERS.**—I find that the tubers of *Oxalis crenata* are sometimes to be got at Covent Garden Market. I am also informed that a number are distributed every year from the Royal Gardens, Kew, and by applying there at this season "D. W." would be readily supplied.—X. L. C. R.

— **LATE MUSHROOMS.**—Mr. G. Taylor, Byram Hall Gardens, Ferrybridge, Yorks, writes under date of December 22nd:—"One can hardly think that Christmas is so near owing to the very open weather we are having. As a proof of the mildness of the season I may say I gathered this (Thursday) morning two beautiful Mushrooms from an open pasture."

— **GRAPES FROM SURREY SAND.**—Mr. A. Dean has sent us samples of Black Alicante and Gros Colman Grapes as grown in a "mass of sharp sand" by Mr. Bury (not "Berry," as stated on page 457, December 15th) at Byfleet. They fully represent all that was stated of them on the page cited as being "really first rate for market purposes"—fine firm berries, admirably coloured, and of maximum quality for the varieties.

— **IMPROVING AN APPLE TREE—THE SAW AND THE PEN.**—In reply to Mr. Ettle, may I say that the Editor was using a pen with a soft nib when he touched me gently respecting the Sykehouse Russet tree (page 458). What I wished to imply was that a badly cankered tree, that seemed quite useless before, had, after being beheaded and replanted, become, as far as can be seen at present, a healthy and fruitful tree, without being regrafted by a stronger growing variety.—D. W.

— **ROYAL METEOROLOGICAL SOCIETY.**—The monthly meeting of this Society was held on Wednesday evening, the 21st inst., at the Institution of Civil Engineers, Great George Street, Westminster, Mr. F. C. Bayard, L.L.M., President, in the chair. Captain A. Carpenter, R.N., D.S.O., F.R.Met.Soc., gave an account of the hurricane which caused so much devastation in the West Indies in September last. Mr. W. H. Dines, B.A., F.R.Met.Soc., read a paper on the connection between the winter temperature and the height of the barometer in North-Western Europe.

— **IMPORTED APPLES.**—I saw a very fine sample of the American King of Tompkins County Apple offered retail the other day at the price of 5 lbs. per 1s., certainly for the time of year, and so excellent a sample, quite cheap. Selling at so low a figure one is naturally tempted to ask what price was originally paid per bushel or barrel to the grower. Probably not more than one halfpenny per lb., as so many persons or companies had to get a picking out of the 2½d. No wonder, if such be the case, that American Apples are sold here so cheaply. Still the price seems low in face of the undoubted scarcity of British Apples in the market, but how indifferent the sample, and badly selected or presented. It is painful to find that although such numerous efforts have been made to improve packing and sorting methods at home, so little good has resulted.—A. D.

— **STRUCTURE OF A FLOWER.**—Under the laws of morphology a complete flower is but modified leaf-blade and branch. If we can imagine a long coil of wire, drawn in so close that the spirals touch each other, we may form some idea how Nature draws in the longitudinal growth of a branch to form a flower. At times the branch objects to this summary proceeding, and, after being arrested and even the parts of the flower formed, will escape from the bondage and journey on as a well-ordered branch should. A branch of a Moss Rose that has fought for freedom in this way was sent to "Meehan's Monthly" some time ago. A few good, clear petals had been formed, when the whole central portion started off on its journey as a perfect branch again. Those who have sharp eyes occasionally meet instances of this behaviour in the Rose and other plants. These departures are very instructive to the curious in the secrets of Nature.

— **BRUSSELS SPROUTS.**—These most acceptable members of the great Brassica family are now in great abundance in shops and markets. What a pity is it, however, that the contents of the baskets as presented untouched should be so deceptive. Some of the very best sprouts, specially put aside for the purpose, dress off at the top quite handsomely the somewhat inferior sample below. No doubt it is as morals go legitimate trading, but stern morality asserts that it is grossly deceptive. It would be so much fairer to purchasers to assort their sprouts and have two samples, as then no one would be deceived. We have very much to learn and to reform in our trading methods. Generally late, and greatly checked in the summer and early autumn, so that the prospect of a good winter produce of sprouts once looked doubtful, but with the advent of the rain came new growth, and now sprouts are generally good and plentiful.—D.

— **ARISTOLOCHIA GIGAS STURTEVANTI.**—Would any grower of this plant kindly say if it is common for it to produce seed? I have grown it for years, but have never seen any seed on it till this autumn when it swelled up two large pods of fine developed seed.—J. L.

— **MAGNOLIA STELLATA FOR FORCING.**—I would like to draw the attention of those of your readers who may not know this handsome ornamental Japanese flowering shrub to the fact that it is well adapted for forcing, and at this period of the year would prove most useful. The flowers are white, with a slight perfume. One drawback is that it flowers without foliage. We have a small plant 2 feet in height carrying about thirty flowers.—GROWER.

— **SHIRLEY GARDENERS' ASSOCIATION.**—The monthly meeting was held at the parish rooms, Shirley, Southampton, on Monday, 19th inst., Mr. F. W. Rummens, C.C., presiding. There was a good attendance of the members. The lecture was given by Mr. E. T. Mellor, Hartley College, Southampton, and was under the auspices of the Southampton County Council, the subject being "The Soil," being a continuation or second part of the subject, the first part being dealt with last month.

— **ONION THE ARISTOCRAT.**—Mr. H. Deverill, of Banbury, sends us an excellent photograph of this new Onion, which has resulted from a cross between Ailsa Craig and Rousham Park Hero. The bulb is of large size and handsome appearance, and is an excellent keeper, of mild and delicate flavour. In form it approaches to a globe shape. In colour it is a light straw, neck very small, shoulder well up, and very solid in texture. It is said that bulbs of 3 lbs. in weight have been produced.

— **SOCIÉTÉ ANONYME HORTICOLE DE CALMPHOUT.**—Such is the title by which the nursery business of the late Mr. Charles P. Van Geert, of Antwerp, will henceforth be known, the successors having transferred it to a Company, of which Mons. Antoine Kort is the managing director. The Calmpouth Nurseries were founded by the late Mr. Van Geert, and are rich in hardy trees, shrubs, and flowers. The successor of the deceased gentleman, who bears his father's honourable name, is a member of the Council of Administration, and the business will be conducted on the same lines as heretofore.

— **THAT V.M.H.**—It seems evident if "John Brown's body lies smouldering in the grave, his soul is still marching on," but it seems a very restless, unquiet sort of soul, concerned because of the affixes with which some men have become burthened. For my part I never could understand why, when anyone had been selected for the honour of the V.M.H. by the R.H.S. Council, that he should not be allowed to do as he liked with it, instead of having imposed upon him the severest restrictions. My earnest advice to the R.H.S. Council is that they never fill up a vacancy when it occurs. It must have been an invidious task to choose sixty. What must it be to single out one as standing alone, and rising majestically above the great world of mediocrities?—A HAPPY FELLOW. [A good and racy fellow too, who may fear being selected as the "victim" of the honour.]

DALKEITH PALACE GARDENS.

EVERYONE has heard of Dalkeith, for its name and fame have reached from one end of the kingdom to the other. Its gardens have been presided over by many illustrious chiefs, and the present one, Mr. Malcolm Dunn, V.M.H., will yield to none of his predecessors in the high esteem in which the gardening community holds him.

The end of November is not a good time to visit any garden, and of course my narrative will be brief. The outdoor garden I did not survey. Many alterations are in progress at Dalkeith; three powerful boilers were being placed in position, and the whole heating arrangements have been overhauled, while the renewal of the roofs of many glass structures is contemplated. The inference can be drawn from this that a little confusion will be unavoidable even in the best regulated garden.

Pines are well and extensively grown at Dalkeith. Three houses, containing ninety plants in each, mostly Quercus and Smooth Cayenne, were showing fruit, and looked particularly well. The shelves in the Pine houses were filled with healthy French Beans. Two houses each contained six plants of *Musa Cavendishi*, some of which were showing fruit. One thousand five hundred *Chrysanthemums* are grown, the majority as bush plants; but a few hundreds are also cultivated for large blooms. These mostly occupied the vineries and Peach houses. A large *Monstera deliciosa* was growing in one of the Banana houses. A long vinery had hundreds of bunches of serviceable Grapes still hanging; the varieties, remembered without notes, being Gros Maroc, Mrs. Pince, Black Muscat, Lady Downe's Seedling, Lady Hutt, Sproutborough Muscat, Raisin de Calabre, White Tokay, and Trebbiano. Several large plants of *Guava Cattleyana* were noticed on the back wall.

The ferneries, stoves, and other plant houses were finely stocked, and every plant looked clean and healthy; hundreds of *Poinsettias* were perfecting their bracts.—F. STREET.

THE GROVE, HARBORNE.

As an ideal residential suburban estate it may not be considered invidious to assert that, among the numerous princely homes of the "City of the Midlands," The Grove, as it is appropriately designated, stands second to none. It is the home of William Kenrick, Esq., M.P., the esteemed representative of the Northern Division of Birmingham. The estate, which occupies about 35 acres of pastoral land, is situated on a portion of the elevated south-western escarpment of Harborne, and overlooking the richly diversified landscape extending towards the Lickey and Clent Hills. The Grove is distant about three miles from the Town Hall of Birmingham.

When Mr. Kenrick acquired the property some twenty-five years since he resolved to considerably enlarge and improve the grounds, for which purpose the services of the late eminent landscape gardener, Mr. E. Milner, were laid under contribution. The mansion was also

domain and surrounding landscape are obtained; especially is it so with regard to a view of the carriage front of the distant mansion, and the intervening ornamental, riverlike lake, extending down the undulated park to within a short distance of the front door. As seen from various points of view, this water scene is almost unique in its effects, and particularly is this the case at the house portion, where a charming conceit is produced by the Rhododendron-clad island and the connecting rustic wooden bridge as seen in one of the excellent photographs (fig. 85), page 493. This scene is especially charming when the Rhododendrons embellishing that end of the lake nearest the mansion are in full bloom. Other striking plants include patches of the Yellow Flag (*Iris pseud-acoris*), huge masses of Catstail or Reed Mace (*Typha latifolia* and minor), and many suitable semi-aquatics, which are disposed chiefly at the opposite end of the lake; white Water Lilies add grace to the scene.

A feature also worthy of special notice in connection with the variety of landscape is the rich arboreal scenery on the higher ground of the neighbouring properties closely adjoining The Grove, consorting admirably as it does with that of the latter, so that strangers especially find it difficult to discriminate between them. Likewise, too, there exists a harmonious blending of the old and younger tree scenery of the park, in which one or two venerable and picturesque Oaks, situated between the lodge entrance and the lake, lend much effect.

A passing reference may be given to the commodious and picturesque residence, which forms relatively so conspicuous an element in its surroundings. It has been said, with some truth, that the edifice should form a jewel of which the surrounding scenery is the setting. Especially does this apply to the ornate Gothic façade so effectively displayed in the photographic picture (fig. 87). The embellishment of the interior of the house harmonises with that of the exterior; it is replete with high-class paintings and other works of the fine arts, and *à propos* of which it may not be superfluous to quote the following paragraph from a recent issue of a local contemporary: "Alderman Kenrick is spoken of as one of the few men in Birmingham who has a collection of

pictures which are pictures. His house is filled, even to the staircases and landings, with canvases by some of the present-day artists, many of them being unusually fine examples of the painter's skill. He is generous in lending these pictures to the city, and has more than once presented pictures to the Art Gallery." It may also be added that Mr. Kenrick, has, we believe, a penchant for wielding the brush and palette, and that one of his favourite subjects is the portrayal of suggestive landscape and garden scenes.

Starting from a vantage point beneath the clump of fine old trees, on the south bank of the lake, adjoining the rustic wooden bridge connecting the bank with the Rhododendron island on the opposite side, as seen by the illustration (fig. 86), we wend our way down a grassy glade in an oblique easterly direction towards a spacious tennis lawn located immediately beyond. The site is almost entirely hidden from the house above by the trees and shrubs charmingly disposed over the intervening ground. It is well protected from the cold north and east winds by a belting of chiefly Austrian Pines, and is otherwise adorned with ornamental trees and shrubs in tasteful arrangement. In addition to this there is, in a sheltered position on the east side of the lawn, a bed containing a collection of choice herbaceous and alpine flowers, whilst on the adjoining bank, in one corner, are stately Delphiniums in variety. The foregoing sections of flowers are cherished here, Mrs. Kenrick, especially, possessing an intimate knowledge of them.

Leaving this charming recreative pleasaunce for pastures new, our steps were unconsciously led towards the south-western portions of the grounds. Ascending a gentle incline by a gravel walk bordered with a series of informally disposed flower beds furnished with Irises, hardy Lilies and Roses, with fine specimen Hollies, Yew and Conifers, in the background, the higher ground is gained, whence pretty vistas of the scenery around are obtained. What are known as bedding plants do not



Photo by H. Stokes.

FIG. 86.—WATER SCENE AT THE GROVE.

Birmingham.

considerably enlarged and embellished, but of that more anon. The north-eastern boundary of the estate abuts on the highway, from which it is separated by an Oak fence, the grounds being effectively screened by tall old trees and a wide belting of evergreens. At the boundary already adverted to is located a neat and unpretentious entrance lodge. From it a broad and sweeping carriage drive extends through the park-like grounds to the picturesque mansion, snugly ensconced in the arboreal scenery around. The greater portion of the drive is lined by an avenue purposely broken with the twofold objects of securing as much as possible an informal appearance and to open up views of the home and distant landscapes. It should be mentioned that the trees in question—Horse Chestnuts and Limes—appear to have been planted some forty years ago; and to still further break the apparent continuity of the avenue, similar trees were introduced by Mr. Milner here and there in clump-like fashion on each side with very good effect.

Immediately after passing through the lodge entrance, the attention of the visitor is naturally drawn to an opening in the shrubbery on the right-hand side, leading into an adjacent grassy dell, furnished with groups and borderings of old-established Rhododendrons in luxuriant growth. Leading from the dell the belting of shrubbery extends onwards in a pleasing and effective undulatory course to the domestic premises beyond. A considerable portion of this line of ornamental trees and shrubs is enhanced by a wide sloping border, furnished chiefly with select herbaceous flowers in masses; while on the opposite side clumps of shrubs and a few flower beds, informally disposed, serve to deepen the interest in the whole. A neat horizontal iron fence, being a continuation of that enclosing the carriage drive, serves to preserve the whole from the incursion of cattle, which are kept for the use of the establishment. A somewhat similar arrangement to the foregoing obtains on the left-hand boundary beyond the lodge entrance to a considerable distance. From this vantage ground charming views of the

find extensive favour at The Grove, and there is no formal parterre, excepting a comparatively small one situated in a somewhat secluded spot near the point of observation just adverted to, and where it tends to lighten the abundance of tree leafage around. Compensation, however, to some extent is afforded by the introduction of numbers of herbaceous and other perennial flowers distributed in suitable spots over the grounds, a feature being the naturalisation of bulbs in the turf. Proceeding, we skirted the east end of the well-kept lawn fronting the south-west side of the mansion, and passing a small but pretty Fern bank at a turn of the walk, we were almost immediately confronted by an entrance to the comparatively new herbaceous and alpine garden, and which, at the time of one of our visits, was aglow with a wreath of floral beauty. It is hidden from view of the windows above by a bank of trees and shrubs.

Beyond this rockery garden is the vegetable and unwall'd fruit garden, which is well secluded from the windows of the house above; the tall old Apple trees, however, occupying the upper part are visible, and when in bloom their pink and white flowers afford, intermixed with the leafage around, a pleasing effect as seen from the house and lawn. It is comparatively small in extent, but by good culture and close cropping it affords a supply of excellent produce for the establishment. At the lower end of the garden is the head gardener's neat-looking abode, a counterpart of the lodge. The longitudinal sides of the garden are respectively bounded by a Thorn and a Holly hedge.

Returning to the lower side of the lawn, the eye is attracted by the relatively highly situated house front above, supported by a broad gravel walk and grass sloped terrace, with at the east end, in close proximity on the lawn below, a fine old Cedar of Lebanon, whose numerous vertical limbs springing from the massive bole within a few feet of the ground, and its head of wide-spreading branches, forcibly remind one of some of those patriarchal giants at Blenheim Palace or Goodwood Park. From the terrace is obtained an attractive prospect, the chequered agricultural and woodland landscape extending towards the Lickey and Cleit hills, with their intervening ranges of lower elevations. The architecture of this frontage of the house is comparatively plain, but of a bold and striking character, and it is in this portion that the drawing and dining rooms, also the library, are located. Attached to the extreme west end of the house is a spacious and high span-roofed conservatory, which also affords a suitable provision for separating the grounds just alluded to from the back premises. It is kept constantly gay with flowers, that bear strong evidence of the long experience and skill of Mr. William Eades the head gardener. Calceolarias, Cinerarias, Gloxinias, Cyclamens, Primulas, Hyacinths, and other bulbs are excellently grown. Adjoining this structure is an interesting Pulham's fernery, the glass roof of which is elegantly draped with the ubiquitous *Ficus repens*.

Passing through the stable-yard we come to the furnishing glass department, and which is solely devoted to stove and greenhouse plant culture, excepting an old but useful long lean-to structure containing several established Vines, and is useful for the cultivation of Ferns. The main structure is a long, high span-roofed house, in two compartments, the one an intermediate and the other a cool house, both being well furnished with plants. A span-roofed pit completes the glass department.

Having thus far described the more prominent features of this desirable retreat, and which, it may not be irrelevant to remark, is on its western boundary adjoined by the eligible estate of Harborne Hall, the property of Mr. Walter Chamberlain, it only remains for us to remark that the keeping of the whole place reflects credit on the skill and diligence of Mr. Eades during the upwards of sixteen years he has had charge of it. It may be further remarked that Mr. Eades is a staunch member of the Birmingham Gardeners' Mutual Improvement Association, and of which he is the assiduous assistant secretary.—W. G.

BARK PRUNING.

I HAVE read with much interest the notes in your last issue (page 470), by Mr. E. Luckhurst, on "Pruning for Fruit," and it reminds me of a system which I saw years ago adopted by a gentleman on whose estate I was then living. If any of his trees, notably Pear trees, were inclined to rank growth, he would cut off and remove from around the body of the tree, below all the branches, a width of bark half to three-quarters of an inch, leaving merely a strip at the back, similar in effect, to the method of the goat spoken of by Mr. Luckhurst. The result of this was that the tree was thrown into bearing condition. The removal of the bark arrested the flow of sap, and thereby put an end to the rankness.

It is my belief that the roots would by this means be weakened, and having less work than formerly would cease to wander wildly in search of food. If this be so, could not the system I mention supersede root-pruning, which, all will agree, is a toilsome task. It is my opinion that there must be some means of governing the roots as well as the branches of a tree without going below the surface. I do not, be it understood, advocate a general recourse to the practice indicated, but simply lay it down to be dealt with, if need be, by the practical men of our calling, from whom a word as to its value is very desirable.—W. R.

[The practice of what is known as "ringing" the branches of fruit trees, to subdue exuberance and promote fruitfulness, was much more common half a century ago than it is now. It is one of the oldest methods known for effecting that purpose, but the first reference to it by the ancient writer Aurelius is not in the form of cutting away a ring of bark, but of affixing an unyielding ligature, as of strong wire, round the stem, or literally "ringing" it. This practice we can very well remember being more or less common in the "forties," though it may have been very much of a local custom. It was, in fact, the exact mode which the old writer advised centuries ago, as follows:—"If you wish an Apple tree to bear much fruit, a piece of pipe should be bound tight round the stem."

This not only arrests the flow of sap from the roots upwards, and thus checks growth luxuriance, but also impedes the deposition of



Photo by H. Stokes,

Birmingham.

FIG. 87.—THE GROVE, HARBORNE.

organised matter, which as a result collects at the point of obstruction, and the fruit above it becomes the finer. We have many times seen the effect of this on the berries of Grapes, where the ringing of an occasional lateral has been practised below the bunch.

We have only seen one instance of the ancient practice systematically resorted to as a commercial operation, and that was in a fruit garden in Suffolk. In this instance cankered Apple trees were restored by grafting, and the branches of Pear trees roped with fine fruit by ringing. The fruit was grown for sale, and it is doubtful if any arguments could have been advanced sufficiently powerful to have induced the grower—who certainly made fruit growing "pay"—to abandon the method which he said served him well, at much less labour and cost than root-pruning. He removed quite narrow strips of bark annually from such branches as gave

signs of over-luxuriance, and the rings thus made subsequently healed over, so that only faint marks of the operation were visible.

After coining the word at the head of these notes, and recording the facts narrated, we leave the subject for timid readers to shudder at, and the bolder to experimentalise if they so desire, and risk the consequences.]



IN THE ROSE GARDEN—PROTECTION.

As I write, though the weather is abnormally mild, a change may come, and the thought occurred to me to pen a few notes on the protection of Roses. First of all we must decide which varieties are the more tender. Almost all of the various classes contain some that are as hardy as the majority of our flowering shrubs, and some that are decidedly tender. There are very few growers who do not take care to plant the latter in warm and sheltered positions, in which case very little protection is needed. This, again, is lessened by care in having well drained soil, and varies according to the part of country in which they are grown. Far too often a writer forgets to give the least hint as to his locality, so that his experiences with certain Roses are of little real value. This accounts for the many contradictory opinions in Rose culture, more especially as regards protection, and the hardiness of Roses.

Here, in mid-Sussex, we have several Roses in bloom in the open, and being upon high ground scarcely ever protect. Still there are a few varieties that need some little break against weather of exceptional severity. As a matter of fact I am closely acquainted with a large amateur grower near here who wraps his plants up in straw and bracken, quite as completely as we see when a few occupiers of the subtropical garden are left outside. But his soil is heavy, very retentive of moisture, and near a large body of fresh water. Although so close together the Roses need quite different treatment as regards protection. My friend often expresses wonder at our Roses being left so exposed, while I am of opinion that his are decidedly over-protected. Still, year after year our plants and flowers come into bloom as nearly as possible at the same time, and I can safely say that the average losses are equal, no matter what the season may be.

We are told that our champion Tea Rose grower from Oxford protects heavily, and I believe that the Rev. A. Foster-Melliar, whose grand Teas are so well known, also protects to a far greater degree than most, and makes a special point of protection in his "Book of the Rose." In contrast to this we have our own beds of Teas and Noisettes in the south, and those of Messrs. J. Cocker & Son, Aberdeen, quite unprotected. I have mentioned these few instances as illustrating my contention that it is locality and position quite as much as the variety of Roses that needs consideration before deciding whether, or how much, the plants should be protected.

There can be no harm in having some suitable protective material ready to hand, so that in case of extra frost no time is lost before protecting. So long as the atmosphere is fairly quiet, from 5° to 10° of frost do no harm to the majority of varieties, but when such a temperature is accompanied by keen, frost-laden winds, I would protect in most cases. What is the best material is a question frequently asked. To my mind, all dwarf plants can be sufficiently protected by branches of Fir, Gorse, Beech, or Laurel, sticking these firmly into the ground upon the windy side. They are easily and expeditiously placed, and can be removed in a short time. Upon some occasions the ground may be too hard at the surface, but an iron spike—and I would have one in every garden, seeing how often they come into use—will make a small hole without any difficulty, and when the ground is hard we do not need more than this to secure the branches or protecting twigs.—A. PIPER, *Uckfield*.

(To be continued.)

A BUDGET OF ROSES.

WE have received from the world-famed rosarian, Mr. William Paul, F.L.S., V.M.H., an appropriate Christmas present in the form of a volume, which is composed of the catalogues which have been issued by the Waltham Cross firm during the twelve years—1884–1896 inclusive. It is a veritable budget of Roses. The senior member of the celebrated Paul family is somewhat of a bibliophile, as his fine library demonstrates, and, like others of similar tastes, he does not esteem books altogether because of their costliness. He has therefore bound his series of catalogues, with all the information they contain, which is great and varied; the plates and illustrations, which are attractive and useful; with voluminous lists of Roses of all kinds and

for all purposes, and which may be taken as fairly representative of the Roses of the period. Naturally the varieties raised or introduced by the firm are included and described under their respective years, during which they were placed before the public—a very fine and varied list of some fifty varieties. The value of the older forms, both for exhibition and garden decoration, has been tested by time. Good when new, they are good still, and their course is not yet run; while it may be safe to say of most, if not all of the newer varieties, that they have, of their types and for their purpose, a long career before them. It was a happy idea to produce this budget—even if only composed of catalogues. "Only!" Let it be said of the catalogues of this and other great firms in the important and commanding industry of horticulture, that they embody a great amount of information, and possess historic value. The late Dr. Hogg used to bind many, but they grew too large for him in later years; and many a question has been answered and date ascertained relative to the introduction of plants, flowers, and vegetables of the past from the bulky tomes. Nothing could so fully represent the advance in commercial horticulture during the past fifty years as an aggregation of trade literature. The pile would be monumental.

NOTES ON ALPINE FLOWERS.

(Continued from page 357.)

GENTIANA SEPTEMFIDA CORDIFOLIA.

THIS variety of *Gentiana septemfida* is one of the best of the Gentians, which are worthily classed among the *élite* of our alpine flowers. Dwarf in habit, free flowering, and beautiful in its colouring, this Gentian deserves the highest meed of praise. Combined with these qualities is that of easy culture, as it can be grown in the flower border as well as on the specially constructed rock garden. It forms a low-growing plant about 6 inches high, bearing a number of large flowers resembling somewhat those of *G. acaulis*, but with the blooms in clustered heads, smaller in size, of a different shade of blue. It comes from Asia Minor, and has been figured in the "Botanical Magazine," 6497.

G. s. cordifolia prefers a peaty soil not too dry in summer, and will flower as well in partial shade as in full sun. It may be increased by division in autumn or spring, but is easily raised from seeds, which ripen well. The seeds are sometimes long in germinating, so that the pots or pans in which they are sown ought not to be emptied if the young plants fail to make their appearance the first season. This Gentian is sometimes met with under the name of *G. gelida*.

MENTHA REQUIENI.

Of the dwarfest habit, this alpine plant is one of the best carpeters we have for delicate bulbs, or those of such dwarf growth that they are unable to raise their flowers above many plants ordinarily used for covering the soil. This Mint just covers the ground, and can hardly be said to rise above it, so close is its growth. It carpets the soil with small deep green leaves, and, when in flower, with a shimmer of rosy purple produced by its tiny blooms. One finds, however, that *Mentha Requieri*—or *Thymus corsicus*, as it is occasionally called—is most prized by the many because of its distinct odour of peppermint. Touched with the hand the latter is scented strongly of mint, and if ladies' garments brush against it the same odour is diffused. It is a matter of wonder that this property should be present in so marked a degree in a plant so insignificant in appearance.

Requieri's Pennyroyal has a fault which is, however, so modified by its free-seeding and self-sowing qualities as to be scarcely a defect; this is that it is rather too tender in some localities to stand all winters. In the writer's garden old plants die in wet cold winters, but there is never any scarcity the following summer. The best way to begin with this *Pennyroyal* is to obtain a small patch in April or May and plant it on a rather dry rockery with a sunny position and leave it to sow itself. Seeds are, I believe, obtainable from a few seedsmen who make a speciality of perennial plants. *M. Requieri* is a native of Corsica.

EUPHORBIA MYRSINITES.

The Spurge are not popular plants among Alpine growers. It is rather unfortunate that this is the case, as the genus comprises several plants of more than mediocre value for rock gardens. The Glaucous Spurge, as *Euphorbia myrsinites* is termed, is by reason of its distinct appearance entitled to be more frequently introduced into collections. In the writer's collection it is frequently remarked upon as a "curious looking plant." It is singular looking to the uninitiated, but those who have studied the genus or the genus *Sedum* show little surprise. It is a capital plant for growing over the ledge of a rockery, where its trailing stems about 2 feet in length show to advantage. The leaves are handsome, almost sea green in colour, and quite fleshy. The flowers are of little consequence, and the plant's chief value consists in its distinct look and the handsome and pleasing leaves on the long stems.

The Glaucous Spurge may be propagated by seed or by cuttings, and is quite easily grown in the rock garden or border in almost any soil. With the writer it is rather a favourite, not only because of itself, but also because this plant, grown from a cutting, is a souvenir of a visit to one of the best collections of hardy flowers in the United Kingdom, presided over by an owner whose knowledge of his flowers is unique.—ALPINUS.

(To be continued.)



HINTS TO SOCIETIES.

WITH the early announcement of next season's fixtures a similar issue of the prize schedules of the leading societies may reasonably be expected. I fail to see why these cannot be issued quite early in the new year. As a rule we hear quickly how much money has been carried over to the reserve fund, and how much has been disbursed in local and other charities. If the accounts for the current year can be so readily made up, there seems to be no tangible reason why the prizes for the next show cannot be equally as expeditiously arranged.

The early issue of schedules I am aware affects only one class—exhibitors. These, of course, cannot be dispensed with, and therefore deserve much more consideration than they at present receive in some quarters. The seasonable publication of the schedule and its accompanying regulations may make all the difference to a society whether they have an increased number of exhibitors or the reverse. A thoughtful cultivator will at once acquire a sufficient number of varieties in the several sections of Chrysanthemums. It is useless to expect exhibitors to do this if the list is deferred till April, for example. To those persons who intend to offer prizes for specified varieties or sections, my hint is equally applicable.

I hope the executive of the N.C.S. will see the force of these remarks and set an example to smaller societies, especially now that the question of the classification has become so prominent a point. Affiliated societies should be bound by the rules governing the parent. The early issue, then, of the N.C.S. prize schedule would enable all societies connected to copy any important items that are likely in the coming season to require more than ordinary attention.

Unless due notice is given in an affiliated society's schedule, I fail to see how exhibitors can be held responsible for items contained in the parent schedule and omitted from their own.

A secretary of an affiliated provincial society quite recently said to me, "If the parent does not advise its children fully, can you wonder at such children desiring a fresh parent?"

The introduction of new classes should be the aim of all committees, as well as maintaining the old ones, no matter how satisfactory they may have been. An impetus is provided by adding classes that are far removed from stereotyped lines, as in catering for the exhibitor the committee must not lose sight of the visitor, who is indispensable as a means of filling some portion of the coffers. The general visitor to a Chrysanthemum show quickly tires of the same type of bloom and method of arrangement. A constant succession of variety is necessary to yearly whet his appetite.

Variety in Chrysanthemums is less numerous at the present time than was the case half a dozen years since. This may appear a surprising statement, but is a fact not to be controverted. Granted the Japanese section contains more variety of form and colour, but there is a corresponding decrease in other sections. No one, I think, will contend that the incurved varieties are equal to former days. Then there is the almost total extinction of the reflexed section, also a big decline in Anemone-flowered sorts. Pompons, Anemone pompons, and single flowered varieties are less numerous, while the fimbriated and scented ones are entirely lost sight of. It will thus be seen that increased interest is necessary in the arrangement of the remaining sections.

It will generally be conceded that at the majority of exhibitions the cut blooms cause the greater attraction for visitors, and provide deep interest for exhibitors. In some few instances, like the Hull Society for example, groups of plants arranged for effect are the chief items in the schedule.

Assuming, then, that cut blooms afford the greater interest, the next point that will strike the majority is the manner in which they ought to be and are staged to produce the best effect, and give an increased impetus to cultivation. Those who, like myself, have had ample opportunity of seeing Chrysanthemums staged in a variety of ways will have come to the conclusion that cut blooms from a decorative point of view are the most effective when arranged with a portion of their own foliage in vases. Various numbers in a vase have been tried, from one to twelve. Three blooms of one variety, cut with stems not less than 15 inches long, is a method that will commend itself to many. Mixed colours in the same vase are not as

a rule satisfactory, and where too many blooms are employed the natural form and elegance are lost by overcrowding.

Classes, then, might be provided for a stipulated number of varieties—three blooms of each in one vase. This is the method adopted by the Scottish Horticultural Association with so much success during the last three years. Baskets containing twelve specimen blooms, accompanied with suitable foliage of any plant, shrub, or tree, is another style of illustrating how large blooms of Chrysanthemums may be utilised for the decoration of the drawing-room or hall. Vases or baskets filled with sprays of undisbudded varieties provide a rich floral treat, and serve as a comparison with the large blooms. Nearly every autumn show has classes set apart for six blooms of any white, yellow, and crimson variety. Such classes afford abundant opportunity of testing the method of staging blooms in vases.

It is idle to suppose that the public still clings unhesitatingly to the older style of arranging blooms on the ordinary green painted boards with the aid of cups and tubes. It is equally a fact that specimen plants of the various types or sections of Chrysanthemums do not meet with the same favour from the public that was formerly the case. Such plants, severely trained and furnished with from fifty to 200 blooms, all mathematically arranged within a given space, were a credit to the producer, but as illustrating the Chrysanthemum as a decorative plant a complete failure.

Dwarf specimens, furnished with ample leafage and carrying specimen blooms, are much more useful, as they harmonise with other plants, and are now a distinct feature at autumn shows. Instead of the huddled together masses of plants so common a few years since, the majority of present day groups of plants show a much better style of arrangement. Foliage plants like Crotons, Rex Begonias, Marantas, Alocasias, Aralias, and Palms associate themselves so agreeably with Chrysanthemums that many pleasing combinations are available.

Single-stemmed plants limited to 3 feet high growing in 6-inch pots deserve encouragement, as they are useful when arranging groups and also for vases in rooms. Prizes are yearly offered at Winchester for six plants of any white flowered variety and a similar number of any yellow. Such classes as these all tend to make Chrysanthemum shows interesting.

Another suggestion and I have finished. All blooms and specimen plants should be named. To the ordinary visitor this omission is most annoying, as it so often deprives persons of the opportunity of adding to their collections approved varieties, and rendering the whole exhibition more interesting, perfect, and satisfactory to all concerned. Prompt disqualification in any class where the exhibitor fails to obey the existing laws is a proper means of checking such irregularities.—E. MOLYNEUX.

NEW JAPANESE CHRYSANTHEMUMS.

THERE is no doubt but that the 1898 additions are of a rather high order of merit, the only difficulty being to limit the selection to something like a reasonable number. Amongst Japanese there are some noble varieties that are bound to take a leading place. After seeing a very large number at our floral meetings and at the trade displays, I am inclined to think that the undermentioned varieties make a useful and promising selection:—

Miss Mary Underhay ought to become a favourite, as it is one of the best of the Japanese incurved type that has been raised in the colonies. The florets are of medium width, grooved, and of good substance; the colour is a rich, clear shade of pure yellow.

Mrs. Ernest Carter has long drooping florets very closely arranged; the colour is a very delicate shade of deep primrose yellow.

Lord Cromer is a variety with medium-sized recurving florets, blooms very large, colour rich velvety crimson, with a reverse of gold.

H. J. Jones is a Japanese with long florets of medium width and large blooms; the colour is one of the most brilliant crimsons possible; reverse and centre gold.

Madeline Davis is of great size. The florets are long, twisted, and intermingling; colour pale lilac mauve, pinkish towards the centre.

Miss Nellie Pockett, of colonial origin, has narrow grooved florets, incurving and pointed at the tips, and is a closely built flower; colour pure glistening white.

Chatsworth is from the same source as the preceding. It has long narrow drooping florets, forming a very deep flower; colour white streaked with pinkish purple.

Purple Emperor is a fine deep type of Japanese, not over-large; the florets are of medium width and grooved; the colouring is rich and effective, being of a velvety shade of plum coloured amaranth with a reverse of silver.

Mr. T. Carrington is a worthy companion to such flowers as Pride of Madford and Australie, to both of which it bears a family likeness. A massive Japanese incurved with long florets of medium width, grooved and pointed at the tips; colour deep bright purple, reverse silvery pink.

Mrs. W. Mease is the finest of the Carnot family; the colour is a lovely pale shade of primrose or sulphur yellow.

Mrs. White Popham is a very large incurved Japanese with broad grooved pointed florets; colour pale purple mauve.

Lady Phillips is a bold incurving Japanese, solid in build with very broad florets; colour pale mauve, reverse silvery pink.

President Bevan, a Japanese incurved, is a fine closely built flower with pointed florets deeply grooved; colour deep yellow shaded bronze.

Madame Couvat de Terrail is a Japanese with florets long and twisted somewhat after the Good Gracious type; colour white, tinted in the centre.

Le Grand Dragon is a large Japanese with long drooping florets of medium width; colour rich deep golden yellow.

Jane Molyneux is a Japanese with very long florets; it is a flower of great depth, colour creamy white.

Sir Herbert Kitchener is another gigantic Japanese, with florets of medium width, long and drooping; colour rich shade of golden chestnut, reverse golden.

Miss Mary Leschelles is a pure white sport from Reine d'Angleterre, and resembles that variety in every respect save the colour.

R. Hooper Pearson is a Japanese of colossal dimensions, with rather broad florets, curly at the tips; colour rich shade of golden yellow with a paler reverse.

Emily Towers is a Japanese with medium sized florets incurving in the centre; colour rosy lilac mauve, reverse silvery pink.

Mrs. Combe is a Japanese with long florets; large full blooms; colour deep rosy mauve.—C. HARMAN PAYNE.

SOILS AND ANALYSES.

It is obvious that homogeneous soil alone admits of broad and simple lessons being obtained from its analysis. "Gardener," writing in your issue of 22nd December (page 481) is unfortunately in charge of soil of great variability. It is difficult to advise in this or any case in the absence of exact knowledge of the results of many analyses and what depth of soil was submitted to the operation. Let us proceed deliberately. If only a sufficiency of lime, the presence of which is a *sine qua non* for rendering plant foods available, can be demonstrated to exist, and this to the extent of half per cent., it will be an immense benefit in matters horticultural and agricultural. By the simple analysis previously referred to as costing only 10s., this question would be settled, so that even a dozen of such analyses would be a justifiable outlay. I referred to this matter in a detailed article on 17th March last in this Journal, to which I should like to draw "Gardener's" attention; and certainly Mr. Cousins, in his "Chemistry of the Garden," insists rigorously on the necessity of knowing all about this useful commodity. I cannot, however, although no chemist, admit the proposition that science would formulate a mixture of manures as based on the average of the constituents of differing soils on a small area. The peaty medium would be naturally deficient in lime.

I say to Mr. Neild when he asks, Is it possible for a plant to be starved while it is in the midst of an abundance of plant food? Yes, undoubtedly, in the very midst of an abundance of plant foods, like farmyard manures and fertilisers, as the result of insufficiency of lime to render such plant foods available. I do not merely admit this, but affirm it. Mr. Neild's question as to plant food really available for immediate consumption, Dr. Bernard Dyer has elucidated. The multitude of text books existing would show the particular kind of foods most largely drawn upon by the various kinds of crops. It would certainly have been more literally correct had I stated in reference to absorption of substances by plants that I reckoned water among those drawn from the air mostly through the agency of the soil and roots.

The Editor in his footnote on pages 412, 413 (December 1st), quotes the Rev. G. Henslow as saying it is because horticulturists have discovered for themselves what their plants require that they succeed so well, though without knowing the why and wherefore in each case, and adds "this is quite true." The familiar practice of liming as a cure for clubbing in the Brassica tribe is an illustration of direct experiment thus accomplished without science.

As to No. 3 in the charter of your last issue (page 481), "elevation above sea level," does not entirely convey my meaning. The disposition of the property should, in case of sites at a distance from the sea, be supplemented by reference to elevation relative to the surrounding neighbourhood.

In reply to "A. D.," on page 476, of your last issue, it is not his, but Mr. Brotherston's remark which is quoted by me. I should be sorry to quote "A. D.," Mr. Hall, or anyone incorrectly.—H. H. R., Forest Hill.

[The Editor has nothing to modify in the note referred to, nor in any other of his notes on the subject of increasing the productivity of the soil. The intuition of, and experiments conducted by, our most successful cultivators have led to far more discoveries than the one alleged relative to the clubbing of Brassicas. The greatest antidote, however (gas lime), against this evil was not, we think, discovered by a gardener, but by a scientist of the first eminence in agriculture. We think it impossible to overestimate the value of scientific research, but, like gardeners, scientists differ, and so do their disciples.]

THE YOUNG GARDENERS' DOMAIN.

ON VISITING FLOWER SHOWS.

ON perusing "The Young Gardeners' Domain" my ambition was aroused to a degree which urged me to adopt bold measures to comply with its requirements. I trust my comrades will view the few remarks I address to them, not as possessing any claim to originality, but simply as bringing to notice a few facts which may prove of mutual benefit.

My subject is a peculiar one, but I consider it most important. It is beneficial to, and in my humble opinion incumbent on, every young gardener who wishes to attain to the highest grade of horticultural proficiency to visit as many flower shows as possible, and few there are who live in such an outlandish place as to be out of convenient reach of any. By a careful and attentive survey of the various exhibits may be gathered the standard of excellence as viewed by the ablest and most skilful cultivators of the neighbourhood, and this may be made an ideal to the attainment to which our future efforts should be directed. Moreover, it is as essential to the gardener, as to men of every other calling and profession, to be able to judge and appreciate or condemn the perfections or shortcomings of his productions.

Were this all that is to be gained it would indeed be profitable; but, if need be, information may be gratuitously obtained. It is useful, though not at all times advisable, to enter into conversation with prizetaking exhibitors, and extort from them (if indeed such stringent measures be needed) under what favourable conditions or by what careful attention their highly esteemed products have been brought to perfection. Apart from the practical knowledge gained our zeal will receive a strong stimulus, which will urge us on to strenuous efforts in our ambition to excel.

What I say regarding flower shows I would wish also to be applied to the visitation of neighbouring gardens. It is an incontrovertible fact, which I have had frequent occasion to observe, that men who have travelled, even in a small degree, are far better informed on matters of importance than those who have spent their life solely in one district. If this be true of ordinary and general topics, how much more so when confined to one particular subject? Assuredly the young man who has seen more gardens will be farther advanced in knowledge than the not so fortunate one who has through circumstances or neglect seen less. The former will be enabled to draw comparisons which the latter would never conceive.

I trust these few remarks will suffice to convince my comrades of the usefulness—nay, necessity—of searching for knowledge in every possible way, and may I conclude with those beautiful words, "It is noble to seek truth, and it is beautiful to find it. It is the ancient feeling of the human heart that knowledge is better than riches."—W. F. R.

POINSETTIAS.

THIS charming plant is now brightening our stoves with its scarlet bracts, and a few points as to its culture may be helpful to some of my young brother gardeners. Immediately after the brilliant bracts have passed their best the plants should be removed to cooler quarters, allowing them to become gradually dry. Cut them back to within a foot of the base in April, removing in May to a temperature of between 60° and 70°; shoots will quickly push, and those about 2 or 3 inches long with a slight portion of old wood may be secured as cuttings. Dry the base before insertion in small thumb pots, using a sifted compost of sandy peat and loam. A propagating case with a temperature of 70° to 80° will be very suitable. When the cuttings are well rooted transfer to 3-inch pots, replacing into the case for a few days, when they may be brought out into more light. Potting must be done as required through the summer, gradually hardening the plants until they can go to a cold frame, where they may remain until September. A temperature of 60° will then be necessary. Poinsettias need very careful watering, as they are prone to lose their lower leaves, which detracts from their beauty. Soot water is an excellent stimulant.—R.

TRADE CATALOGUES RECEIVED.

Dickson, Brown & Tait, Corporation Street, Manchester.—*Seeds*.
S. Dobie & Son, Heathfield Gardens, Chester.—*Seeds*.
W. J. Godfrey, Exmouth.—*Chrysanthemums*.
H. Henkel, Darmstadt.—*Plants*.
Kent & Brydon, Darlington.—*Seeds*.
Little & Ballantyne, Carlisle.—*Seeds*.
J. Peed & Sons, West Norwood.—*Seeds*.
J. Veitch & Sons, Ltd., Royal Exotic Nursery, Chelsea.—*Seeds, Novelties and Specialities, Chrysanthemums, Herbaceous Plants*.

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 175, Victoria Street, S.W.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary*, Mr. A. F. Barron, The Royal Gardeners' Orphan Fund, Chiswick, W.



FRUIT FORCING.

Vines.—*Earliest Forced.*—The Vines that were started early in November, whether in pots or planted in the borders inside, will now have the root action excited by the development of the foliage. Great care is required at this stage to avoid chills. The temperature about the pots should be kept steady at 70° to 75°, pressing down the fermenting materials and adding fresh, but sweetened, as required. Disbud and tie down before the shoots touch the glass, not being too hasty in stopping. Where two leaves are made beyond the bunch the laterals of Vines in pots should have their points pinched off at that point of the shoots, and when the leaf at the joint is about the size of a halfpenny. Those planted in borders, and there being space, may be stopped three or four joints beyond the fruit, and then extend the growth so as to secure as much well developed foliage all over the house as can have full exposure to light, taking care to avoid overcrowding.

Superfluous bunches should be removed as soon as choice can be made of the best, leaving those for the crop that promise to be the best shaped and most compact, and it is better to have the Vines under rather than overcropped. The night temperature ought to be maintained at 60° to 65°, and 70° to 75° by day, with an advance to 80°, 85°, or 90° from sun heat. Vines in pots should, as soon as the fruit is set, be copiously supplied with liquid manure, yet it must only be given when the soil is moderately dry. Maintain a genial atmosphere by damping the paths two or three times a day, and occasionally with liquid manure, not too strong, or the ammonia volatilised may prove injurious instead of beneficial to the foliage.

Houses to Afford Ripe Grapes in June.—These are the first in a majority of establishments. Black Hamburgh, Mill Hill Hamburgh, and Madresfield Court are good black varieties, and of white kinds Buckland Sweetwater and Foster's Seedling, with Duke of Buccleuch, answer well. The Vines should be planted inside the house, and be confined to the inside border until it is occupied with roots, when they may be allowed to pass into the outside border. The house should be started at the new year, watering the inside if dry, bringing into a moist condition, and if the Vines are weakly follow with liquid manure. Damp the house and Vines two or three times a day in bright weather, but when dull once, or at most twice, say in the morning and early in the afternoon, will be sufficient. Maintain a temperature of 50° to 55° at night and on dull days, advancing to 65° from sun heat, and a free circulation of air.

Houses from which the Grapes have been cut—Pruning should be completed without delay, but to a round bud as near the main stem as possible, with a prospect of a crop. Shorten or cut away elongated spurs where there are others nearer the stem to supply fruit, or train up young canes to displace the old rods. Remove loose bark carefully, not scraping them into the quick or live bark, and thoroughly cleanse the house and the Vines. Remove the loose surface soil, especially near the collar of the Vines, and supply fresh loam, top-dressing with some approved fertiliser. The house should be kept cool, but frost is best excluded. If used for plants the temperature ought not to exceed 40° to 45° by artificial means, and those plants only that require safety from frost should be placed in vineries when the Vines are at rest. If the house has a mean temperature of 50° the buds will be excited, and that is prejudicial to the after-growth.

Late Houses.—Muscat of Alexandria and Canon Hall Muscat Grapes are extremely difficult to keep sound on the Vines after Christmas, which may be due to the fluctuation of temperature and variability of the atmospheric moisture, the principal difficulties being to keep the temperature even and prevent the deposition of moisture on the berries. This usually occurs after a cold period, the heat of the sun expanding the atmospheric moisture, and it is deposited on the cooler surfaces of the berries, which do not become warmed equally with the atmospheric air. Some growers prefer to keep the Grapes on the Vines, and maintain an equable temperature, with the exclusion of fogs, by covering the roof of the house with straw, keeping the house freely ventilated in mild weather and close when cold, with little more fire heat than necessary to exclude frost. Grapes so kept weigh heavier than those that hang some time in a drier and warmer atmosphere; and Muscats so preserved command long prices, but the Grapes do not always keep well.

For general purposes Grapes are best kept after the new year in a Grape room or other cool, dry place, and as equable in temperature as possible; the more wood the Grapes are cut with the better they keep. Place a lump or two of charcoal in each bottle of clear rain water, and there is then a certainty that it will keep sweet up to June; the temperature should be kept as near as possible between 40° and 45°. By cutting and bottling the Grapes the Vines are set free for pruning and cleansing the house. Alicante, Gros Colman, and Lady Downe's succeed well under the close pruning system—that is, spurring to one or two buds, the bearing shoots being stout and short-jointed. Gros Guillaume and Mrs. Pince do best on the long pruning system—that is, prune the shoots to a plump bud on well ripened wood, as the small basal buds are seldom reliable, often pushing fruitless shoots. Muscat of Alexandria and Canon

Hall Muscat also succeed best on the extension system, but sturdy, short-jointed, well-ripened, and not overcropped shoots of these varieties generally show enough fruit when pruned to two buds; but when the eyes are small and the growth weak or long-jointed it is better to shorten the shoots to the first plump round bud from its base, always taking care to rely on those only on well matured wood. Where the Grapes cannot be cut for some time the mean temperature should be maintained at 45°, 5° less as a minimum and 5° more as a maximum, admitting air constantly in mild weather, but keeping close when foggy and cold, but with a gentle warmth in the pipes to insure the air moving.



VENTILATION OF HIVES.

It is now a recognised fact with the majority of bee-keepers that ventilation is necessary for the bees during the dull days of winter as well as throughout the summer months. But how is this to be done without lowering the temperature of the interior of the hive and thus causing injury to the bees? Some successful bee-keepers advocate solid floorboards, and the entrance to the hive partially closed, allowing only an inch, or even less, of open space for the admittance of air, and for the bees to take a flight during a spell of favourable weather. Others, again, are strongly in favour of a perforated zinc floor, which certainly has the advantage of cleanliness, as much of the debris, caused by the bees uncapping their sealed stores, will pass through the openings instead of remaining on the floorboard to the detriment of the stock. There is also a constant current of air passing into the hive, whilst equally successful apiarists will use solid floorboards and allow the entrance to remain open its full width throughout the winter.

We have wintered stocks successfully under each of the above systems, and there has been little difference in their condition the following spring as regards the number of bees in the various hives. But one point came out strongly in our experiments. Those hives having solid floorboards, and the entrance reduced to 1 inch, were damp and the outside combs mouldy. The floorboard, too, in each instance, was wet at the corners, and the debris which had accumulated was in the same unsatisfactory condition; the floorboards, contrary to our usual custom, not having been replaced with dry boards throughout the winter. The perforated zinc floors passed through the ordeal satisfactorily. But in the early spring the bees did not appear to work as freely from those hives having them as they did from the others. We therefore came to the conclusion that it was owing to the coldness which apparently affected the bees when they alighted on the zinc. We were afterwards convinced as to the truth of this, as the following autumn we placed a rapid feeder made entirely of zinc on one of the hives; the bees carried down the syrup at a rapid rate when a high temperature prevailed, but directly it became cooler they absolutely refused to enter the feeder.

WIDE ENTRANCES.

If bees are wintered in ordinary frame hives without an upper storey we have no hesitation in recommending wide entrances throughout the winter months, and if there is a thin wedge of wood of about one-eighth of an inch in thickness placed under each corner of the hive, so as to lift it quite clear of the floorboard, the hive will be found much drier in the spring than would otherwise be the case.

Although we advocate this system, a little judgment is required in carrying it out. The plan we practise to prevent robbing in the autumn is to reduce the entrance to about half its full width after the honey flow is over, and when outdoor supplies are getting scarce, as robber bees are then on the alert to gain an entrance to any colony which may be weak or unable to protect their stores. The bees will thus be better able to cope with intruders than they would if the entrance were open its full width. When all danger of robbing is over they are again opened, and remain in that condition until the following spring, when breeding has commenced and robbers are again in evidence. They are then reduced, and gradually opened to their full width as the colonies increase in strength.

Any bee-keeper having a few stocks of bees may experiment on the above lines, and will find it interesting to note the difference between the various colonies, as not two stocks will be found exactly alike. If say half a dozen stocks are of equal strength in the autumn, and are treated the same throughout the winter, some will be found to be much stronger than others the following spring. As stated in previous notes, we have several colonies of bees from which the supers were not removed, owing to the prevalence of honeydew. As there is a great amount of air space in those hives we have reduced the entrance to them; these will not be opened until considered necessary in the spring. Up to the present very little stores have been consumed, and it will be interesting to note how they compare with those in smaller hives next spring.—AN ENGLISH BEE-KEEPER.

TO CORRESPONDENTS

•• All correspondence relating to editorial matters should, until further notice, be directed to "THE EDITOR," 8, Rose Hill Road, Wandsworth, S.W., and NOT to 12, Mitre Court Chambers, Fleet Street. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *nom de plumes* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Seedling Chrysanthemums (*John Elton*).—The single Chrysanthemum, though carefully packed, was much withered when it reached us, and it is therefore impossible to form a correct estimate of its quality. You will be justified in naming it. The incurved or Japanese incurved appears to be of good promise. We advise you to grow them well next season, and then to submit specimens of each to some Chrysanthemum specialist.

Pear Decayed at the Core (*W. H. B.*).—The Pear is Beurré Berckmans, an excellent fruit, but so liable to decay at the core as to be often practically useless. We have found the defect most pronounced in fruit grown against a wall, and also in dry seasons. There have been various surmises as to the fruit decaying at the core, which is much on the increase, and unquestionably due in part to a high and continued high feeding system of culture. We have tried some experiments, and paid much attention to the subject, but have not attained any marked success, though the use of silicate manure, especially that of potash, has been attended with benefit. There is no fungus, but some bacterial germs in the fruit, but how they got inside is more than we can say. They are not of species that affect living tissues, but of those found in nearly all decaying organic substances. Why not graft the tree with another variety?

Border for Outdoor Vines (*G. H. F.*).—A border 3 feet in width will at first be sufficient for the needs of the Vines. If necessary it may be added to in after years. A border of this width well prepared and broken up to the depth of 18 inches will prove a suitable rooting medium in which the Vines will establish themselves readily. This depth and width of soil may be kept fertile and sufficiently encouraging to the roots by annual top-dressings of manure and due supplies of water, liquid manure, or soapsuds in summer, together with additions of substantial compost from time to time for the benefit of active surface roots. This will be the means of preventing the descent of the roots into cold poor subsoil. In preparing the soil do not use fresh manure. Turfy loam, light or heavy, according to the nature of the staple soil, intermixed with dry wood ashes and a handful of bonemeal in the immediate vicinity of the roots of each Vine when planting answers the best.

Forcing Roses (*S. S.*).—We think you attach too much importance to the "resting" of your plants. They are never at complete rest in pots, more especially the Teas and Noisettes. You mention nipping off the flower buds until November, and also that the varieties grown are chiefly Mermets and Niels, but not a word about pruning. Provided the plants of such growers as Catherine Mermet, Perle des Jardins, and Niphetos receive a partial rest and open-air treatment during late summer and early autumn, there should be no difficulty in forcing. Prune back to well matured buds, and you will have new growths that will carry blooms. Do you not give too much water in summer? Are you not somewhat reluctant to cut away any healthy wood? Do you not start the plants into new growth too rapidly, and in too high a temperature? Unless these or some of them are the causes of your failure, there is something in your treatment that has not been stated in your queries. Surely if you have several Rose houses you employ a person who understands the work of Rose forcing. We shall be very happy to help you in any way, but unless we know full particulars, cannot suggest exactly where the cause of failure rests. We have no difficulty in producing abundance of Roses by starting the plants at the present time, and have never once failed in our object.

Wasps in Vineries (*Yorkshireman*).—With ample means of ventilation we have had no difficulty in excluding wasps from vineries by the use of sufficiently fine meshed hexagon netting, but we have occasionally seen the ventilation provision so scant in houses that even the netting proved obstructive to the requisite amount of air required by the Vines. If a wasp find entrance to a netted house the intruder may be brought down by a shot from the syringe. Numbers of wasps can be caught outside a vinery in bottles of sweetened beer and other traps temptingly baited.

Compensation for Compulsory Disturbance (*Wakopa*).—Your case is governed by the special Act of Parliament obtained by the railway for extending its line. If no provision is made there for compensating you for prospective profits, you have no remedy under the general law. You have surely received notice of some kind—probably twelve months. There is no denying the hardship of your case. The law says magniloquently "there is no wrong without a remedy," but lawyers spend their lives in learning that this principle is qualified by innumerable exceptions. Even if you had a colour of right it is dangerous to contest it with a large corporation. Corporations, including the State, are the hardest taskmasters, and have no bowels of compassion for the individual.

Scoliopus Bigelovi (*W. Raby*).—You are in error in supposing this to be a new plant; such is not the case, though it is still very rare in Great Britain. It flowers early in April and May, the number of blooms being invariably eight in different stages of development. The flowers (fig. 88)



FIG. 88.—SCOLIOPUS BIGELOVI.

are beautifully crisped, not unlike *Nerine crispa*, and vary from a dull greenish to a bright showy purple, regularly interspersed with dark spots, often merging into blotches. The outer segments are about an inch long, nearly half as broad, and widely spreading. The inner ones are about the same length, very narrow and erect, but variable. The leaves are from 6 to 8 inches long and half as broad. They are very suggestive of *Veratrum*, and only differ from them in having the veins on the under surface narrowly winged, both sides being sprinkled with minute purple dots, making them very attractive. The plant is perfectly hardy in our climate. It should be planted in peaty soil in a partial shady position.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior

varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruits or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (P.).—We know of no Apple exactly like the specimen you send, and should imagine it to be a local seedling. (F. W.).—1, Warner's King; 2, Dumelow's Seedling; 3, New Hawthornden; 4, Gascoyne's Scarlet Seedling; 5, Bramley's Seedling; 6, Lord Derby. (G. M.).—1, Golden Winter Pearmain; 2, Sturmer Pippin; 3, Cox's Orange Pippin; 4, local seedling of no merit. (H. S.).—1, Round Winter Nonesuch; 2, Yorkshire Greening.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (Taylor).—Through misdirection all your specimens were dead on receipt; please read rules above and send again. (F. R.).—1, *Adiantum trapeziforme*; 2, *Pteris serrulata*; 3, *Nephrolepis trerosa*; 4, *Adiantum tenerum*. (R. V. K.).—1, *Lælia anceps*; 2, *Odontoglossum Rossi majus*.

COVENT GARDEN MARKET.—DEC. 28TH.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ sieve ...	1	3 to 3	Lemons, case ...	30	0 to 60 0
Cobs ...	45	0 50 0	St. Michael's Pines, each	2	6 5 0
Grapes, lb. ...	0	10 1 6			

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ...	0	0 to 0 0	Mustard and Cress, punnet	0	2 to 0 4
Beans, $\frac{1}{2}$ sieve ...	0	0 0 0	Onions, bushel ...	3	6 4 0
Beet, Red, doz. ...	1	0 0 0	Parsley, doz. bnchs. ...	2	0 3 0
Carrots, bunch ...	0	3 0 4	Parsnips, doz. ...	1	0 0 0
Cauliflowers, doz. ...	2	0 3 0	Potatoes, cwt. ...	2	0 4 0
Celery, bundle ...	1	0 0 0	Salsafy, bundle ...	1	0 0 0
Coleworts, doz. bnchs. ...	2	0 4 0	Scorzonera, bundle ...	1	6 0 0
Cucumbers ...	0	4 0 8	Seakale, basket ...	1	6 1 0
Endive, doz. ...	1	3 1 6	Shallots, lb. ...	0	3 0 0
Herbs, bunch ...	0	3 0 0	Spinach, pad ...	0	0 0 0
Leeks, bunch ...	0	2 0 0	Sprouts, $\frac{1}{2}$ sieve ...	1	6 1 9
Lettuce, doz. ...	1	3 0 0	Tomatoes, lb. ...	0	4 0 9
Mushrooms, lb. ...	0	6 0 8	Turnips, bunch ...	0	3 0 4

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ, var., doz. ...	6	0 to 36 0	Ficus elastica, each ...	1	0 to 7 0
Aspidistra, doz. ...	18	0 36 0	Foliage plants, var., each	1	0 5 0
Aspidistra, specimen ...	5	0 10 6	Lilium Harrisii, doz. ...	24	0 36 0
Crotons, doz. ...	18	0 24 0	Lycopodiums, doz. ...	3	0 4 0
Dracæna, var., doz. ...	12	0 30 0	Marguerite Daisy, doz. ...	9	0 12 0
Dracæna viridis, doz. ...	9	0 18 0	Myrtles, doz. ...	6	0 9 0
Erica various, doz. ...	9	0 24 0	Palms, in var., each ...	1	0 15 0
Euonymus, var., doz. ...	6	0 18 0	„ specimens ...	21	0 63 0
Evergreens, var., doz. ...	4	0 18 0	Pelargoniums, scarlet, doz.	8	0 12 0
Ferns, var., doz. ...	4	0 18 0	Solanums, doz. ...	6	0 12 0
„ small, 100 ...	4	0 8 0			

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

	s. d.	s. d.		s. d.	s. d.
Arums ...	8	0 to 12 0	Lily of the Valley, 12 sprays	1	0 to 2 0
Asparagus, Fern, bunch ...	2	0 2 6	Marguerites, doz. bnchs.	6	0 8 0
Azalea, white, 12 sprays	1	0 1 3	Maidenhair Fern, doz.		
Bouvardias, bunch ...	0	4 0 6	bnchs. ...	6	0 8 0
Carnations, 12 blooms ...	2	0 3 0	Narcissus, doz. bnchs. ...	5	0 6 0
Chrysanthemums, per bch.	0	6 2 0	Orchids, var., doz. blooms	1	6 9 0
„ specimen			Pelargoniums, doz. bnchs.	6	0 10 0
„ blooms, per doz.	4	0 6 0	Poinsettias, doz. blooms ...	12	0 15 0
Eucharis, doz. ...	4	0 6 0	Roses (indoor), doz. ...	2	0 4 0
Gardenias, doz. ...	2	0 3 0	„ Red, doz. ...	6	0 8 0
Geranium, scarlet, doz.			„ Tea, white, doz. ...	3	0 4 0
bnchs. ...	8	0 12 0	„ Yellow, doz. (Perles)	2	0 3 0
Lapageria (white) ...	1	6 2 0	„ Safrano (English) doz.	2	0 2 6
„ (red) ...	1	0 1 3	„ Pink, doz. ...	5	0 6 0
Lilium lancifolium, white	3	0 4 0	Smilax, bunch ...	2	6 3 0
„ „ pink	3	0 4 0	Violets ...	1	0 2 6
„ longiflorum, 12 blooms	8	0 10 0	„ Parme, bunch ...	4	0 6 0
Lilac, bunch ...	5	0 6 0			



THE VANISHING YEAR.

BEFORE these lines appear in print we shall have celebrated our Christmas feast once more; we shall have met round the festal board with mingled feelings. The least reflective of us will have cast glances back at the months that have rolled away since last we honoured Father Christmas in the wassail bowl.

As years roll on (and how fast they speed nowadays) every anniversary comes with sad as well as pleasant memories. To the children the pleasures are as yet unmixed, but to the parents the case is altogether different. In several homes there are vacant chairs and empty hearts; in many a sense of failure and disappointment. What remains of the present year, which broke so brightly, is now fading away; its last days—almost its last moments—are speeding into the past. We set ourselves such great tasks at the beginning—would that we may find we have accomplished half our desire. It is not that we would decry a spirit of enterprise which would make all things possible, not for a moment; but we often wonder how it is, and why it is, that we (with the best intentions in the world) fall so far short of our own ideals. We get weary in the race; our footsteps lag; we are daunted by the thought of lions in the way, and we have let them impede our progress, not having taken the trouble to ascertain that, even if they were lions, they were securely chained.

Christmastide comes as a glad break in the monotony of life. It is a little holiday—a time of pleasant reunions and cheery festival, and we fancy in the country Christmas is perhaps yet best observed. There is not the rush and the racket there. The feeling of business at high pressure, the too exhausting toil, mental and bodily; and the rejoicing is perhaps keener as the treats to the country folks are fewer. The other bank holidays do not so much affect us—indeed, we only know of them by the advent into our quiet homes of town friends. In the villages (at least in those we know) there is so much done in a quiet way to provide every home, however poor, with the where-withal for physical refreshment. We are all so closely connected by ties of long standing, and we know each other's affairs so perfectly, that there is no difficulty at guessing at each other's needs, and no slackness in ministering to those needs.

There have been preparations afoot for some time in our homes—pork pie baking, sausage and the succulent bacon manufactured, fowls of water and land carefully plucked and still more carefully prepared for the oven, stones of rich, black, plum-bread baked, and plum pudding boiled, jars of delicious mincemeat concocted of foreign and home products, and in some neighbourhoods the preparation of “frumenty” creed Wheat boiled with new milk and eaten with cream and sugar and a dash of nutmeg on Christmas Eve.

We remember in our younger days what a generous saint St. Thomas proved himself. From early dawn to grey evening the widows and children were abroad, and calling at all the farm houses, received their portion of dry Wheat, or prepared Wheat, as the case might be, with little standing meat pies, small packets of tea and sugar, and halfpence. Those days appear to have gone, and we regret it. We never now see a sheep cut up in the farm kitchen for distribution among the labourers, and we wonder what is the cause? We fancy several things may have contributed to the change. In so many parts of the country some twenty years ago the agricultural labourer yielded to the spirit of the age and joined in the almost universal strike movement. This caused a breach between master and man, which time, so far, has not healed. We do not say the men were altogether wrong, for God alone knows how some poor fellows managed to struggle on and get a bit of bread for themselves and their bairns; but the feeling of soreness has never quite gone.

Again, the position of the individual farmer is not what it was, and, unfortunately, economy is first seen in the cutting off of charities. Then, again, we almost fear the art of frumenty making is a lost one. It was good and luscious; but, oh! so bad for weak digestions.

A walk to church on Christmas morning is always fraught with pleasure, be the weather what it may. There are kindly greetings to be exchanged on every hand, for, unlike the town dwellers, we in the country know intimately everyone of our neighbours, and there is always a nice sprinkling of young folk come back to the parent nest for the holiday season; and they bring fresh life and interest into our midst. The bells always seem to ring clearer and louder borne on the Christmas breeze, and we are not distracted by the brazen clangings from a score of steeples. Most of us have had a hand in the bright decorations. To some of us falls the care of cutting the evergreens with a judicious hand, so as not to spoil the beautiful shrubs; others weave the wreaths; and our more active members are greatly in requisition for decorating those parts of the sacred edifice that are inaccessible to petticoats.

This year the bright moon will wait on the footsteps of the carol singers, as they pass down the silent street and across the fields to the lonely farmhouse, waking the sleeper with the glad news of the Advent of the King. We listen with joy to the old favourites, sung to the old tunes—some of them so old that no printed record can be found of them. Our hearts are softened by that message of peace ringing out on the midnight air, and we determine, if God in His mercy should spare us to join in another Christmas hymn, that the intervening months shall be better spent than any hitherto have been. We forget our toils and anxieties for a few brief hours, and we emerge from the rest and quietude better and wiser men and women—at least, that is our hope and last wish of the vanishing year.

WORK ON THE HOME FARM.

The last week of the year finds us again summing up the work, satisfactory or otherwise, which has been performed during its course. The general dryness of the year has been in almost every way conducive to economy, the exception being where the lack of rain has entailed much use of the water-cart. The spring was dry, the summer was dry, and the autumn far from wet.

The dry spring following a fine autumn found farm work in a very forward condition. Stubbles had been well autumn cleaned, and little more of such work remained to be done. Spring corn went in well, though in some cases a rather free use of the roller was necessary in order to complete a satisfactory seed-bed.

A low labour bill obtained until May and early June, when the spring corn having been checked in its growth by late frosts, failed to compete successfully in some cases with the strong-growing weeds. This entailed hoeing, unusual for spring corn, and we came across instances of fields in which the recently sown Clover plants had to be hoed up and resown. This caused serious expense in seed as well as labour. Generally speaking the hoeing was required amongst the stolen Barley crops where weeds may be expected.

Excepting this extra hoeing, summer work was done cheaply and well. Never were Clover and hay more easily and better secured, in fact the hay season must have been a record one for weather. Work amongst the Turnips was equally favourable, and this brings us to the corn harvest, which, after a few wet days just at the commencement, was completed in a manner almost unequalled, though not quite in record time. The saving here would be equally shared by the labourers at piece work and the farmers who sail near the wind and run risks.

The autumn is only left to record; a long spell of dry, nay, very hot weather, gave every opportunity not so much to dispense with labour as to make such good use of it as to lay the sure foundation of a good saving in the spring and summer. After September damper conditions gradually assumed sway, and farm work has since been carried on under the usually alternating conditions, "weather samples," as the Yankees call them.

On the whole, whether the farmer has profited by his crops or not, and dry seasons do not suit all farms, there should have been a labour bill under the average, and on the principle that money saved is money gained, this should have helped the balance-sheet, whether it be a favourable one or not.

To all our readers, whether they have profited by this year's farming or not, we wish a happy and prosperous one in the year 1899.

PETITE CULTURE.

LADY WARWICK'S HOSTEL FOR WOMEN, READING.

DESPITE the somewhat discouraging reception of the Press, the scheme stated above has made an excellent start, and has just concluded its first term with great *éclat*. The formal opening took place on the 10th inst., preceded by a well attended meeting at the Reading College, presided over by Lord Wantage, V.C., and terminated by a reception and at home, held at the hostel, by Lady Warwick.

The objects and aspirations of the Society were excellently set forth in a paper read by the able and most energetic Lady Warden, Miss Edith Bradley. "The hostel had been founded for the purpose of enabling educated women to obtain a course of training in all the lighter branches of agriculture. Reading College provided the theoretical instruction, and the grounds of the hostel gave ample scope for practical work. The course of training extended over two years." The fees, inclusive of all tuition at the College, amount to from £50 to £60 a year.

In compliment, I suppose, to the four-course system, the Warden suggested four paths from which to choose—

1, Some might wish to return home and direct the cultivation of the home farm or garden.

2, For successful students there is little doubt that posts will be found as County Council lecturers, general gardeners or specialists, Grape, Orchid, Mushroom, Tomato and Cucumber growers; as dairy and poultry women, as florists, as pickers and packers, jam makers, fruit bottlers, and so on.

3, Agricultural settlements, where, for those who have small incomes, cottages will be built, with land attached, which the trained women will know how to cultivate.

4, The fourth path, of course, is the matrimonial one, but owing to the surplus million of women this cannot be largely taken into consideration.

The speeches at the meeting were very good, and the whole scheme received with respect and hearty good wishes. At a former meeting it was remarked that the result might possibly be some extra excellent farmers' wives, but on this occasion there was nothing irreverent.

Certainly, locally, the start has been an excellent one. The hostel was a large girls' school, so adapts itself well to its present requirements. Twelve ladies are already in residence, a number which next term is to see more than doubled. The universal iron horse is always in readiness to carry to and from the College lectures and Dairy Institute, whilst these cycling days make also easy constant visits to Messrs. Sutton's experimental grounds and other agricultural regions connected with that College department which is under the able and active direction of Professor Gilchrist.

"It is hoped," says the Lady Warden again, "that this will expand into a Women's Agricultural Bureau, and co-operate with the Women's Institute in London and the Women's Employment Bureaux in London and Liverpool in helping to organise and direct the vast army of women workers."

Lady Warwick remarked, in a very able address, she thought it was pretty generally acknowledged that along the line of horticulture and "petite culture" women could run as successfully as men, and in dairy work they superseded men. What they wanted was that the knowledge women received should be true knowledge, and that the best should be open to them in so far as they could avail themselves of it.

It is a common remark that when a new thing is started people say at first that it is absurd and impossible, then that there may be something in it, then that it is bound to be a success and they always thought so. Lady Warwick's hostel has already arrived at this second stage.—A. C.

METEOROLOGICAL OBSERVATIONS

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY				Rain.
1898. December.	Barometer at 32°, and Sea level	Hygrometer		Direc- tion of Wind.	Temp. of soil at 1 foot	Shade Tem- perature.		Radiation Tempera- ture.		
		Dry.	Wet.			Max.	Min.	In Sun	On Grass	
	inches	deg.	deg.		deg.	deg.	deg.	deg.	deg.	inches.
Sunday 18	30.204	52.6	51.2	S. W.	47.1	55.1	50.2	62.8	47.0	0.021
Monday 19	30.138	42.7	41.2	W.	47.9	46.2	42.4	58.6	38.4	—
Tuesday 20	30.405	34.1	31.6	N. W.	45.1	41.4	32.3	51.1	27.3	0.032
Wednesday ... 21	30.437	39.9	39.2	N. E.	43.1	40.2	33.6	41.7	27.2	—
Thursday .. 22	30.518	35.1	35.1	N.	41.9	43.4	32.2	48.6	27.9	—
Friday 23	30.478	33.8	31.1	S.	41.2	40.9	30.4	49.6	23.1	—
Saturday.... 24	30.402	34.6	32.4	S.	40.0	43.8	27.1	44.5	22.9	—
	30.369	39.0	37.4		43.8	44.4	35.5	51.0	30.5	0.053

REMARKS.

18th.—Mild day, with much bright sunshine; a shower at 6 P.M., and overcast evening.

19th.—Slight rain between 4 A.M. and 5 A.M.; bright sunshine from 10 A.M. to sunset.

20th.—Cold and clear, with bright sun all day.

21st.—Showers in the small hours; overcast morning; faint sunshine from 1 P.M. to 3 P.M.; fog in evening.

22nd.—Fog, thick at times, till 11 A.M.; sunny from noon to sunset.

23rd.—Slight fog early; sunny day and bright night.

24th.—Overcast throughout; slightly foggy early and in evening.

Much colder than the previous week, in fact temperature near the average. Another nearly rainless week.—G. J. SYMONS.

